



Mental Aerobics

75 Ways to
Keep Your Brain Fit

BARBARA BRUCE

Author of **7 Ways of Teaching The Bible to Adults**

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This book is dedicated to my father, Nicholas Fredericks, who set me on many paths in my life and who unwittingly set me on the path to this book. I treasure his memory.

Foreword

Mental Aerobics: 75 Ways to Keep Your Brain Fit is an encouraging and reassuring look at what baby boomers can expect from their aging brains. For all of us who have panicked over misplaced car keys or run into an old friend whose name escapes us, Barbara Bruce has synthesized the latest research on maintaining late life mental acuity. Entertaining and practical, this upbeat, highly readable book actually covers the topic of mental aerobics from A to Z. You will learn the importance of the “Big 5”—diet, exercise, challenge, newness, and love. Have fun with the “Brain Breaks”—activities that fire up those aging neurons. Learn the tricks to remembering names and faces. Be reassured that despite our aging bodies, we can choose to nurture brain health. Tell your friends and colleagues to read this book!

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(LIFESPAN is a nonprofit agency dedicated to providing information, guidance, and services that help older adults *take on* both the challenges and the opportunities of the second half of life.)

Preface

I am fascinated with the human brain. God gave us this most incredible and awesome gift. It behooves us to be good stewards of it. This book can help you to take good care of your most precious gift—your brain.

I decided to present this information in a numbered format. Some sections are longer than others. In the classes I teach on mental aerobics, the subject students want to spend most time on is memory. So I have spent several pages on memory. There is no set pattern. Often you will see something repeated in different parts of the book. In Scripture, when Jesus wanted to make a point, he repeated the idea. Look at Luke 15. Jesus repeats the same concept three times. Why? He wanted you to get it. When I repeat something in various parts of the book, it is because I want you to get it.

I have included “Brain Breaks” at intervals throughout. I practice what I preach. When you come to a Brain Break, take the time to do the exercises. They are fun; stimulating; and, most important, provide your brain with challenge and novelty.

This information has been gathered through several years of research at brain and aging conferences; on the Internet; on television and radio; in books, magazines, and newspaper articles; and in PBS programming, Yoga instruction, and almost everywhere I look. I have become a “brain junkie”—making discoveries constantly about how the brain functions in relation to learning and longevity.

The fascination/problem with brain research is that almost daily there is new information. Scientists all over the world are immersing themselves in countless hours of study and research. The information changes constantly. In fact, the only constant in brain research is change. It is a fascinating and challenging place to be.

I am not a physician, psychologist, or neuroscientist. I am an educator with an interest in keeping the human brain alive and well throughout life. We know that the brain can continue to function indefinitely with proper care and feeding. We know that the brain has an element of “plasticity” that allows it to grow, change, and develop throughout your lifespan.

We know that the brain has two hemispheres that function independently and yet process the same information within milliseconds of each other. When you speak, the left hemisphere of your brain forms the words, while the right hemisphere provides the intonation. The two hemispheres work best in tandem.

Please use this book as a resource for yourself; for your aging parents, relatives, or friends; for your church's ministry to aging adults; in your community; or in any other ways that are limited only by your ingenuity and imagination.

Blessings,
Barbara Bruce

Introduction

I did not cry when my father died at age eighty-six. I cried about six weeks prior to his death when I went to give him a hug and he did not know who I was. I cried at the loss of this man who was such a guiding force in my life. He was strong and healthy and happy. He loved to sing and was a wonderful artist. I cried for the loss of this man who was always there when I needed him.

I felt alone and abandoned. I did not know this person who had invaded his body. I lived four hundred miles from my father and saw him once or twice a year. We talked regularly on the phone. I noticed some repetitive phrases and once in a while some confusion. I attributed this to a natural part of his “growing older.”

I had begun to do some active research into the aging brain—a logical next step from the learning brain—and this experience with my father accelerated my study. I wanted to learn as much as I could about preventive steps. I knew it was possible. I attended a seminar on aging where the presenter, Dr. Pearls, was talking about his work with centenarians. He said their numbers are growing. His research is based on discovering what these folks are doing/not doing to reach the age of one hundred and beyond. He said much of this longevity was genetic and familial. During the question-and-answer time, I asked him about those of us who did not choose the right parents who lived to one hundred. His reply reiterated what I have been doing in my research (much different than his in the medical field but with parallel conclusions), that you CAN take steps that have an effect on your longevity and functioning.

Some of my friends are in their 70's and 80's and are active, involved, and functioning very well. I want to be like them. I want to start today. I want to know my children and grandchildren as long as I can. I want to remain a thinking, functioning, person until the day God calls me home. I want to do everything I can to keep my own brain fit. I want to share my findings with as many people as are willing to listen.

Someone asked me what I would be contributing beyond what is already out there. My answer is that while everyone wants to know about keeping their brain fit, not everyone has the time or the inclination to read and research many volumes of books and articles or to attend seminars on the aging brain. Most folk do not have time to gather and consolidate this information. Much data is very technical. I wade through that and glean from many sources to provide user-friendly, everyday, understandable information. That is my contribution.

I am teaching mental aerobics in adult continuing education classes and in seminars around the country. I know that people are hungry for knowledge about maintaining brain fitness. In today's culture, we want a fast fix—tell me in a condensed, *USA Today* format. That is the intent of this book.

I invite you to read and experiment. If you read and put the book down without doing anything, this is a wasted exercise. Try these suggestions on yourself and those you love or those you teach. Begin today. If you are fifty, sixty, or seventy, there is still time to make a difference. If you are thirty or forty, so much the better. Do not wait. Every day that you enrich your brain will give you blessings in the form of additional years of clear thinking, good memory, and a sense of wellness.

How to Use This Book

I would like you to bring two images to mind. Imagine that you can stand back and watch yourself in ten (or twenty) years.

Scenario 1

Imagine yourself sitting in a rocking chair, with a few unfamiliar faces gathered around you. They are talking with you; asking you questions that you cannot seem to answer. The questions sound fuzzy. You think that you should know the answers and maybe even put names to the faces around you, but you just cannot. You are not sure you know what day of the week or month it is either. Oh dear!

Scenario 2

Imagine yourself in a class at the continuing education program in your town. You and several other folk from your bridge club have decided to learn to speak French. You meet weekly, go out for a light dinner, and go to class. You practice this new language with one another as you play cards and talk over dinner. How neat!

This selection is a “no brainer,” to use a common colloquial expression and pardon the pun. I believe, that given a choice, all of you would choose Scenario 2. Maybe you would be doing jigsaw puzzles and practicing yoga, or traveling to new places, or tutoring in the local school. The point is you would be active and fully involved in life given the choice.

Now imagine that you have that choice. Imagine that you could extend your time of mental acuity by years by doing a few simple (and often fun) tasks each day. Would you do it? Would you be willing to experiment with your last third of life? Would you like to fill your days with quality time and activities, fully engaged with friends and family? You can make it happen! The key is YOU HAVE TO DO THE ACTIVITIES!

If you are twenty or thirty or forty—Go For It!

The sooner you begin to exercise your brain, the better and longer it will serve you. Keep taking classes, teaching someone something, learning a new language or a new skill. Just do not get into a behavioral rut. Now is the time to begin. Just as you exercise your body to maintain physical abilities, you must exercise your brain to maintain mental abilities.

If you are reading this book for your own mental preservation—Go For It!

Read the book through once quickly to get the big picture. Then go back and read it slowly, selecting activities that seem the most interesting to you. Practice one or two of them each week. Once you have the first few down pat, find a few more and practice them. Keep enlarging your experiences and finding new and exciting activities to try. Do not try to do everything at once. You will become overwhelmed and get discouraged. By selecting a few activities, you can begin to incorporate them into your daily routine. It will require some lifestyle changes. These activities are not the thing to do for a week and quit. The activities are cumulative. For example, I now brush my teeth every morning with my left hand. It is part of my daily routine and gives me a quick and easy brain boost. I reward myself after typing for a half hour by playing a computer game. I can pass a fast-food restaurant and not blink an eye.

If you are reading this book for a friend or family member who is beginning to show signs of mental decline or who simply wants to maintain the mental capabilities he or she now has—Go For It!

Again read through the book for an overview. Then reread and make notes about which activities you can encourage your family member or friend to do. You can make it fun and model the activities each time you are in his or her presence. You can share the book and ask her or him to join you in a three-month (or whatever time frame you choose) experiment. Doing the activities with someone else makes it easier. My walking partner and I encourage each other and nudge each other on days that one of us does not seem too excited about our two-mile hike.

If you are reading this book for the adult ministry in your church—Go For It!

Read the book through for an overview. Then go back and highlight, in different colors, activities that can be done in church classes, activities that can be done on your own, activities that can be done in pairs or small groups.

Begin a support group. Give your group a name that will attract people like “Boosting Brain Power” or “Use it or Lose it.” Work through the book together and report your experiences, successes, failures, and funny stories. I ran into a woman from my first mental aerobics class in the grocery store. She said she does some form of puzzle each day and reads part of the morning paper upside down. This is more than two years later, and she is still exercising her brain.

You decide if and how you want to maintain your brain fitness. Use it or lose it!

Brain Fitness Survey

Each of us has a lifestyle we adhere to most of the time. Some of the habits contribute to a healthy brain; some do not. Circle the appropriate answers according to your lifestyle. A--seldom B--frequently C--daily. Total your scores.

eat a balanced diet

I tend to: A —or— B —or— C

try new puzzles/games

I tend to: A —or— B —or— C

eat fruits/vegetables

I tend to: A —or— B —or— C

take the stairs

I tend to: A —or— B —or— C

drink 5-6 glasses of water a day

I tend to: A —or— B —or— C

weigh within 10 percent of where I should be

I tend to: A —or— B —or— C

limit junk food in my diet

I tend to: A —or— B —or— C

talk with friends

I tend to: A —or— B —or— C

walk/jog/bicycle (exercise)

I tend to: A —or— B —or— C

answer questions on television game shows

I tend to: A —or— B —or— C

play an organized sport

I tend to: A —or— B —or— C

read a variety of books/magazines

I tend to: A —or— B —or— C

avoid being a basic couch potato

I tend to: A —or— B —or— C

eat chicken and fish (rather than red meat)

I tend to: A —or— B —or— C

work in my garden (other hobbies)

I tend to: A —or— B —or— C

give of myself to others (volunteer)

I tend to: A —or— B —or— C

try new foods/recipes

I tend to: A —or— B —or— C

take additional supplements

I tend to: A —or— B —or— C

learn new games

I tend to: A —or— B —or— C

hug someone

I tend to: A —or— B —or— C

take a multivitamin

I tend to: A —or— B —or— C

hang out with people I enjoy

I tend to: A —or— B —or— C

try different routes to/from work or play

I tend to: A —or— B —or— C

Now it's time to total your score. Give yourself:

0 for every A

3 for every B

5 for every C

If your total is between

0 and 30--you have work to do. **READ THE BOOK**

21 and 65--you are doing an OK job at keeping your brain fit. **TRY A BIT MORE**

66 and 115--you are doing everything right to keep your brain fit. **KEEP IT UP**

75 Ways to Keep Your Brain Fit

1 Accept Being a Slower Organism

The wonderful PBS series entitled *Stealing Time* told about a musical conductor who was ninety at the time of the filming. He was teaching, and he was conducting an orchestra with energy and timeless experience. He was quite good at what he did. Where he was slipping in his ability was a timed test of transferring written symbols from one area to another. Does it matter? Not much. Parts of your brain slow down with age. Your manual dexterity is not what it used to be. You cannot play the fast-paced computer games that require mental agility and tremendous eye/hand coordination as a teenager can. So? You do not need to. If you attempt these kinds of games and activities, you will come away frustrated, angry with yourself, and feeling less than adequate. Why bother? There are wonderful computer games that challenge your mind but are played at your own speed. More about them later.

Athletes compete in triathlons (competition in three successive events, often long-distance swimming, bicycling, and running) at all ages. Most of us don't. That's OK. Speed is not nearly as important as consistency and perseverance. Remember the fable of the tortoise and the hare?

2 Recognize Age-Associated Memory Impairment (AAMI)

As you age, your brain becomes filled with information. After all, it has been storing information since you were born. In today's fast-paced society, you often fall prey to "brain overload" or "T.M.I.," too much information. We are bombarded by sights, sounds, tastes, odors, and touches constantly. It is part of the normal aging process not to remember (unless you make a conscious effort to do so) where you parked your car or left your keys. When it becomes not normal is when you cannot remember your name or what day it is.

Do not become overly concerned about everyday memory impairment; this simply adds more stress, which produces more negative chemicals in your body, which is detrimental to your brain. Go with the flow, and learn the tools of "memory extenders" to lighten your load and find your car.

3 Learn About Aging

The world looks at aging differently. In Asia, elders are respected as having the wisdom of their experience. Here, in the United States, as people age, they are often neglected, tossed aside, abused, or abandoned. I do believe that attitude is changing, just as the terminology about aging is changing.

The baby boomers are pushing the envelope. Look around you; more and more magazine, newspaper, and even television ads are being addressed to “older” folks. Consider products being sold to make you look younger: teeth whitening, weight loss, vitamins and supplements to prolong youthful vigor, sexual aids, hair color, Botox, and body sculpting (a.k.a. liposuction). They are offering the “fountain of youth” in a pill or box. Advertisers know who their market is.

New terminology describes fifty to sixty-four as young/old, sixty-five to eighty-four as middle/old, and eighty-five and beyond as old/old.

Age is mostly in your head (I'm not talking aches and pains). I know some folks who are “old” at thirty-five and others who are “young” at seventy. A great deal of this has to do with your brain and what you tell it. It's called *attitude*.

Go to the Web site www.livingto100.com and check out how long statistics say you will live based on your lifestyle. I think it is fun because it says I will live to be 94.7 years old. Check it out. If you are not happy with the result, the site provides advice as to what behavioral changes you need to make. Learn how your calendar age compares with your real age, and work from there.

BRAIN BREAK

A good workout for your brain is analogous thinking. An analogy is a figure of speech that compares two dissimilar items to create a deeper understanding. Similar to a metaphor, analogies help you to see things in new and creative ways and to stretch your thinking.

The Kingdom parables Jesus told are all analogies. In Matthew's Gospel, Jesus tells us that the kingdom of God is like a treasure hidden in a field (13:44) or a merchant in search of fine pearls (13:45) or a fishing net (13:47). These references were to help Jesus' listeners in their understanding of the Kingdom.

Often in creativity training or as a brain break, I ask people to tell me about their faith. Think about the following pairs and decide where your faith lies. You must choose one of each pair and explain your choice.

Is Your Faith More Like . . .

sunrise	or	sunset
a door	or	a window
an oak	or	a willow
a dictionary	or	a hymnal
a rock	or	a pillow
a seed	or	a flower
entree	or	dessert

4 Research the Aging Brain

Your brain has been aging since the minute you were born. Scientists know more now than they ever have about how your brain ages. This is true for two main reasons: (1) people are living longer now (the average life expectancy in 1900 was forty-seven; in 2001 it was seventy-six), and there is more time to study the aging brain; and (2) today's technology, in the form of MRI's, fMRI's, PET Scans, CAT Scans, EEG's, provides the means and opportunity to view exactly what is happening in your brain at any age.

As a society we are aging. Part of this fact is due to healthy habits and advanced medical technology. This is also due to the 77 million baby boomers who have begun turning fifty at the rate of one every .07 seconds or roughly 10,000 per day. The first-line boomers begin reaching sixty in 2006. These vast numbers of people are directing everything from research to advertising. The aging boomers are not going to go to their rocking chairs and shuffleboard courts without a fight.

Research is expanding almost daily on keeping your brain fit and disease free as you age. Most people do not die of old age; they die of diseases such as cancer, heart attacks, brain attacks (stroke), or other health problems. Check out "Past, Present, Future," in the Appendix section, to see what is looming on the horizon as of today.

5 Read About Alzheimer's Disease (AD)

Named for German neurologist Alois Alzheimer, who discovered a tangle of nerve filaments in 1906, the disease remains a mystery to doctors and neuroscientists the world over. Discoveries are being made almost daily that lead us closer to answers about this degenerative nerve disease, but at this writing neither prevention nor cure is at hand.

Some things we do know: Alzheimer's

- is a chronic condition characterized by disorientation, memory loss, balance and speech impairment, and intellectual decline;
- is caused by degenerative nerve endings that disrupt the passage of electrochemicals to the brain;
- has genetic links; but even when the propensity is present, often the disease is not—the jury is still out on what percentages of the disease are nature and what are nurture. We do know there are steps that can be taken to keep your brain fit (reading and using this book is one).
- affects about 4,000,000 Americans, usually from age sixty and above;
- kills about 120,000 Americans each year and is the fourth leading cause of death among the aging population. As we age as a nation, this figure will increase substantially;
- appears to be lessened by higher levels of education and activity;
- is not caused by hardening of the arteries;
- is NOT contagious.

While there are numerous jokes about Alzheimer's disease (AD), it is far from a laughing matter. As we age, we become more aware and more concerned about our mental health. At this writing I have found sixteen pages of Web sites offering information on AD. The most definitive site is the one from the Alzheimer's disease Web site at www.alzheimers.org. If you are concerned about AD, check the site frequently for the most up-to-date information, including new discoveries, test results, and links to other sources of information about the disease.

If the possibility of succumbing to AD is a concern for you, read *Aging With Grace: What the Nun Study Teaches Us About Leading Longer, Healthier, and More Meaningful Lives*, by Dr. David Snowdon. It is a fascinating and easily readable book describing the events and experiences that have come to be

known worldwide as the seminal study on AD. Nuns from the School Sisters of Notre Dame convents around the country volunteered to be tested mentally and physically and to donate their brains for autopsy to determine what AD had done or not done in their lives. It is a seminal study for many reasons:

- Archives were available, dating back eighty years, with autobiographical, biographical, physical, and mental information about these women;
- They all lived in a similar (not exactly the same) convent environment;
- Nearly 700 nuns participated, providing a critical mass of subjects;
- Scientists from many disciplines—epistemology, medicine, psychology, nutrition—many aging institutes from around the country, and some worldwide organizations, were part of the study.

This is a fascinating book, and there is still more to learn from these wonderful women and dedicated scientists.

BRAIN BREAK

List ten things that would make a day absolutely perfect for you. Then see what you can do about making them happen.

6 Investigate Anti-inflammatory Drugs—NSaids

In countless studies on Alzheimer's disease and other dementia-related diseases, the areas of the brain affected by these diseases were found to be inflamed. These findings led scientists to believe there is a strong link between inflammation and your body's immune system. The theory was that anti-inflammatory drugs might provide some help.

The National Institute on Aging conducted a six-year survey of well over 7,000 adults over sixty and found that those who regularly took anti-inflammatory drugs were mentally sharper and were half as likely to develop Alzheimer's disease. These studies and many others around the world have led scientists to believe that inflammation and your immune system play a major role in the destruction of brain tissue. There may be dangerous side effects with taking too much of any anti-inflammatory drug, so be sure to check with your doctor before engaging in any drug regimen.

7 Add Antioxidants to Your Diet

What happens when you cut an apple in half and lay it on the counter? Within minutes it begins to turn brown. The oxidation process has begun. You can prevent this from happening by simply dipping the cut side of the apple in lemon juice, high in vitamin C. In a similar process your body uses vitamins called antioxidants to help fight the damage caused by oxidation. Your brain produces energy from oxygen and glucose and must get rid of extra oxygen molecules that are known as free radicals. Many scientists think these free radicals are partially to blame for your aging body and brain as well as some diseases, including Alzheimer's, cancer, and heart disease. Three big ones to be sure.

So, what defense do you have against these free radicals? By eating a diet rich in foods and vitamins containing antioxidants, you can fight and in some cases repair damage that has been done to your brain or body or both.

Scientists the world over are conducting studies and coming up with similar findings: Those persons suffering from dementia and Alzheimer's disease have higher than "normal" levels of enzymes that play a role in oxidation and low levels of antioxidants. The excitement continues to grow as more and more evidence comes in supporting the fact that antioxidants, particularly vitamins A, C, and E (just think of your ace in the hole against brain disease) may slow the symptoms of dementia. What a blessing. Be sure to check with your doctor before taking anything beyond a basic multi-vitamin, because high doses of some vitamins may be harmful.

I want to share a recipe I have constructed. Two of these wonderful morsels daily will help you get your antioxidants and fiber. Every ingredient adds to a healthy brain.

Barbara's Brain Boosters

½ cup ground nuts (almonds or walnuts)

1 Tbs. ground flax seed (you can omit this if not readily available)

10 dried plums (a.k.a. prunes—the orange flavored ones are best)

10 dried apricots

1 Tbs. grated orange rind

1 Tbs. orange juice

1 Tbs. honey

Finely chop nuts. Set aside 2 Tbs. Grind flax seed (I use a coffee bean grinder); mix with remaining chopped nuts. Chop dried plums and apricots. Set in a small bowl. Wash and grate one orange rind; add grated rind to bowl. Add the orange juice and honey. Add 2 Tbs. of nut mixture. Mix ingredients well.

Lay out a piece of wax paper. Make grape-sized balls of the

mixture, and roll them in the remaining nuts. Place on wax paper. Store in an airtight container or refrigerator. Satisfy your sweet tooth while giving your brain a healthy boost.

BRAIN BREAK

Describe in seven words or fewer the following items:

a cotton ball a harmonica Christmas morning a kazoo
a paper clip flannel pajamas fireworks a sunset

8 **Change Your Attitude**

So much of what you do in life depends on your attitude. You have choices every day about how you will face the day. Everyone knows people who seem to be “up” most of the time. They have a positive outlook on the world and are able to go with the flow. They seem to see the glass half full and always manage to find the silver lining in a situation. They age well. This positive attitude seems to be beneficial to the brain and the body.

By the same token, we all know people who seem to be “down” most of the time. They find fault with everything—it is too hot or too cold, the bed is too soft or too hard, the fish is too rare/well done, and on and on and on. Nothing seems to please them. What a sorrowful way to go through life. This negative attitude takes a toll on one's mental and physical health. Your body produces a neurotransmitter called *cortisol* that is harmful in the long range.

Now that you know that information, what can you do? First, you have a good idea about your attitude—although negative people do not always see themselves that way. They believe they are simply telling it like it is. If you are not sure, ask some friends whose opinion you trust (and who will be honest with you) to rate you on a scale of one to ten (one being pessimistic, and ten being optimistic). If you see a pattern developing on the negative side, take some steps to turn your attitude around. One way to do this is to listen to yourself. If you find yourself saying things like

“I don't feel like doing anything”;

“I'm just not up to that”;

“I've got a headache/stomachache/backache/toe ache”;

“The music is too loud/noisy”;

"I'm tired";

"I'll just sit this one out";

BRAIN BREAK

The list below contains a baker's dozen of initials and numbers that are clues to common phrases or ideas. How many can you complete? Have fun.

Example: 40 = D and N of the G F (40 = Days and Nights of the Great Flood)

1. 26 = L of the A
2. 7 = W of the W
3. 12 = S of the Z
4. 54 = C in a D (with the J's)
5. 9 = P in the S S
6. 88 = P K
7. 13 = S on the A F
8. 32 = D F at which W F
9. 90 = D in a R A
10. 200 = D for P G in M
11. 8 = S on a S S
12. 1,000 = W that a P is W
13. 29 = D in F in a L Y

(See "Answer Section")

9 Balance Your Life With Work and Play

An old Chinese proverb states: “To achieve a balanced life, carry a melon in each hand.”

Often our lives get out of balance, out of sync. We are too busy at work to take time to play. We are too focused on career, finances, accomplishments, or collecting material things to take the time we need to enjoy what we have.

Time management specialists suggest things like writing yourself into your palm pilot, day timer, or whatever form of calendar you use. Others call it “white space.” Look at your calendar and see how much white space you have. If there is little or none, you need to create some. Your brain needs a change of venue to remain sharp. You cannot run 24/7 and expect to be alert and focused all the time. It is scriptural. The writer of Ecclesiastes knew the wisdom of the philosophy that for everything there is a season. Check your calendar to see how much white space there is. The world will continue to turn if you are not busy all day, every day. Trust me.

Balance is good for your brain. When you do the same thing, day in and day out, your brain shifts to automatic pilot. When you are involved in a project, switch gears every half hour or so to give your brain a boost.

10 **Keep Your Balance**

To remain steady on your feet requires a good sense of balance. Your brain plays a large part in this act of balancing, even though you are unaware of all the intricate processes going on. In order to keep your balance, your brain requires a constant flow of information from various parts of your body, including eyes, muscles, joints, semicircular canals in your inner ear, sensory nerves in your skin. The cerebellum in your brain is responsible for collecting this information and relaying it to other areas of the brain to coordinate all of the movements of your body.

As you age, your sense of balance may not be as sharp as it once was. Balancing is an activity that you can practice. Just as a child learns to balance by walking on a piece of tape on the floor, so can you. Practice each day for five minutes. You will be amazed at how much effort it takes. With practice, it becomes easier.

Another exercise from Yoga is to stand with both feet planted firmly on the floor, shoulder-width apart. Shift your weight slowly to your left leg. Stretch your arms out to the sides. Focus your eyes on a spot in the room several feet away. Once you are focused, slide your right leg up until your right ankle is next to your left knee. Stand balanced on one foot. Begin with twenty seconds (it is more difficult

than you think). Work your way up to one full minute. Then switch to standing on your right leg and raising your left leg. Practice this balancing each day to achieve a greater sense of body balance that will help you in managing to navigate your world as you age.

Maintain your balance as you go about your daily routines. Good balance may help you avoid falls, which can cause major problems, including becoming familiar with crutches and wheelchairs.

11 Take a Brain Break

Experiment with the brain breaks scattered throughout this book. Most of them have come out of my creativity training, some are from my book *CPR for All Ministers*—a self-published book that is circulating around the country where I have taught. Some are adaptations from things that I find on the Internet. There is great overlap between brain fitness and creative thinking.

I try to take a brain break every twenty to thirty minutes when I am working on an involved project (such as writing this book). It is good for both brain and body to do this. Sitting at a computer for long periods of time is constricting to your body. You need to get up and move around—stretch, walk, get a glass of water.

Similarly, when you are working on a project or studying, you need to take a break. Your body and your brain need to switch gears, and you will feel refreshed and may find some new ideas and enthusiasm.

Do something totally different for just a few minutes. Try standing and stretching—very simple. Stand about thirty inches from your desk or a table. Stand up straight, feet firmly planted on the floor, shoulder-width apart. Raise both arms as high as you can, and take a deep breath. Bend forward at the waist as you exhale until your fingers are placed on the desktop or table. Hold for a count of three, and stand up straight again. Repeat as many times as you need to. The simple act of stretching and breathing gives your brain a break and adds needed oxygen.

Or, take a brain break by doing any of the following activities:

- Go for a quick walk and take several deep breaths.
- Drink a glass of water.
- Talk with someone in person or on the phone.

Then return to your task. Chances are you will be refreshed and renewed and ready to go.

Every now and then I find myself so engrossed in a project that I sit for hours and do not come up for air. I am “on a roll.” When I do reach a stopping point, I am brain dead and must stop altogether and work on something physical, like gardening or cleaning. My brain needs the break

BRAIN BREAK

Think of theme songs for the following people from the Bible:

Adam	Daniel	Samson	Moses
Eve	Jacob	Noah	Sarah
Joseph	Rahab	Ruth	Jezebel
Mary	Peter	Paul	Timothy

12 Try Brainstorming

In my graduate work in creative studies, one of the most useful techniques I learned was “brainstorming.” Ho hum, you say. Been there; done that. In my years of training people around the country, though, I have found that the technique is often misunderstood and misused.

Alex Osborn is known as the father of brainstorming. To use this technique correctly and most beneficially, there are rules to follow. Rules for creative thinking sounds like an oxymoron; but we know that if these four simple (not easy) rules are followed, there is more creativity, more brain juice flowing, and more successful outcomes.

The four rules for brainstorming are

- No Judgment (it is illegal and immoral to say things like, that won't work; we've tried it)
- Strive for Quantity (aim for at least thirty ideas in three minutes—about one page of a legal pad)
- Accept Wild and Crazy Ideas (it is easier to tame a tiger than to pump life into a kitten)

- Build on Other Ideas (we call it hitchhiking—one idea leads to several related thoughts)

In my training groups I have participants begin with a practice brainstorming session just for fun. I often use “Improving a Church Pew” as a practice session. Participants get to see how the process works and which rules they maintain and which they break (and they do break the rules!), and they laugh. (See Number 32.) Participants get to see brainstorming in action. They can then do a better job of working on the real issue. Try it with some friends. You will laugh, interact, get some fresh ideas; and your brain will get a good workout.

The next time you are struggling with an issue or a problem, get five or six folks together and hold a true brainstorming session. The results may surprise and delight you. You may generate some new and different ideas to work with, and your brain will get a workout by using a new technique. As you invite people to join you, go beyond your immediate circle of friends. Find someone to be part of this group that has not a clue about what you are doing. The reason for this is that people who are not involved in your topic do not know what cannot be done. They bring fresh eyes and ideas to your session.

BRAIN BREAK

Name at least one animal for each letter of the alphabet.

13 Research Brain Scans

Several tests can help discover information about how your brain functions.

- CAT—Computed Axial Tomography—CAT scans use an ultra thin X-ray beam that shows internal brain structures.
- MRI—Magnet Resonance Imaging—MRI uses a strong magnetic field to measure the response of hydrogen atoms in the brain.
- fMRI—A functional MRI can measure brain activity as it is functioning. When asked to perform certain tasks such as reading silently or out loud, the instrument can measure and record brain activity.
- PET—Positron Emission Tomography—tracks brain activity by pinpointing the source of heightened activity.

- SPECT—Single Photon Emission Computerized Tomography—tracks blood flow; measures brain activity.

These five (most common) brain imaging techniques provide insights into how the brain functions. Information from these techniques leads to uncovering the secrets of your brain. This information will lead scientists and doctors into making discoveries about how to keep your brain fit and functioning as you age. Your physician will order such tests as the need arises.

14 Breathe

Your brain handles your breathing. Everybody breathes, so what's the big deal? The big deal is being able to help your brain and body deal with stress by breathing. You do not think about your breathing; you know you breathe or you would not be alive.

Researchers have discovered (and Yoga practitioners have known for centuries) that breathing exercises can reduce your anxiety and stress levels by as much as 50 percent. Try this: Breathe in slowly and deeply through your nose, expanding your abdomen rather than your chest to the count of three. Breathe out slowly through your mouth to the count of six. This takes some practice. You can test this by placing your hand on your abdomen and feeling it puff out like a balloon as you inhale. Be sure to count initially until you get the hang of it. Expelling breath for twice the time you inhale takes practice. It is amazing the calming effect this breathing can have on you. Practice three or four times initially. As your body becomes used to this method, you can practice this breathing for three or four times several times a day—at stop lights, in heavy traffic, “on hold” waiting on the phone, and always when you are feeling stressed.

15 Challenge Yourself With New and Unique Experiences

When you challenge your mind to think in new ways, you create new dendrites that strengthen and build on the cortex to keep your brain fit. People do puzzles in the paper or play along with television game shows. That's fine and good. In addition, I'm suggesting you challenge your mind with some playful concepts to really stretch your thinking.

Your brain relaxes and shifts into neutral with “same old, same old.” Try a few of these suggestions and see if you feel your brain getting more exercise:

- Learn a foreign language; you do not have to be fluent—numbers, colors, days of the week, and simple sentences (grammatically correct please) will challenge your brain.
- Read a magazine in a totally new field. I have stopped reaching for *Better Homes and Gardens* and now try *Electronics*, *Money*, *Field and Stream*. They are filled with fascinating ideas (and some boring stuff for those not into the field) and keep your brain fit.
- Learn to bead or crochet or paint. I had my first ever experience making a beaded star. I love the woman who attempted to teach me. Eleanor's brain knew exactly how to create this star after making approximately 2,643 of them. What took me nearly two hours of trial and error, took her about twenty-five minutes. Her brain was traveling well-used neural paths; mine was creating new neural pathways.
- If you always do the crossword puzzle in the paper, try the Jumble or Word Search. Give your brain a new challenge.

16 Find Your Creativity

My master's degree is in creative studies. This graduate program helped me see the world in a new and unique way. I'd like to share some creative, mind-stretching ideas with you to help you begin to see with new eyes and perhaps new neurons.

First things first; everyone is creative. You are creative in different ways. Some folks are Innovative Creatives. These are the folks who seem to catch new ideas out of the air. They are always coming up with new and unique ideas for doing things. Some folks are Adaptive Creatives. These are the folks who seldom get a spanking new idea. Rather, their gift is taking an idea, molding it, and shaping it into something better and more applicable. Both kinds of creative gifts are necessary for making changes in the way things are done. Most people think that Innovative Creative is the only way to view creative thinking. Wrong! In creativity workshops, I help people realize and expand on their creative gifts. Try some of the Brain Break exercises in this book to strengthen mental muscles and have some fun too.

BRAIN BREAK

Below are letters and numbers that represent common phrases. How many can you discover meanings for?

Example: I E CEXCEPT = I before e except after c

1. ECNALG	7. OHOLENE	
2. HE'S/HIMSELF	2S4A9F6E9T3Y5	
3. WEAR	9. 1 1 1 1 1 1	Another
LONG		Another
		Another
4. BAN ANA		Another
		Another
5. HOROBOD		Another
6. GROUND	10. YOU JUST ME	
feet		
feet	11. GESG	
feet		
feet	12. THIRIGHTNGS	
feet		
feet		

(See "Answer Section")

The only one who really likes change is a wet baby. Change is difficult to handle. We tend to like things just the way they have always been, thank you very much!

Try this. Fold your hands. Note which thumb is on top. Now, shake out your hands and cross them with the opposite thumb on top. How does it feel?

Cross your arms. Note the configuration. Now unfold them and re-fold them the opposite way. How does it feel? Most folks would say awkward, strange, uncomfortable. We are creatures of habit. The older you get, the more ingrained certain habits become. You get stuck in a rut. Break out of your rut. It is a challenge to break out of your comfort zone and do things differently. Check out Number 42 for novelty and lots of ideas. Try to do one thing differently each day to give your brain a boost.

18 Create Your World Through Choices

Consider how many choices you have made today: Paper or plastic? Decaf or regular? I'm not really trying to be facetious. Stop and take a piece of paper and a pencil. Think about your day from the minute you made the choice to get out of bed (you could have remained there another hour or so) to the point in your day where you are right now. You have made hundreds of choices, haven't you? Not all of them carry the same weight, but all reflect your lifestyle and patterns of behavior.

From childhood you have made choices; friends, activities, foods, clothing. You still make these choices today. Some choices have had a major impact on your life: education, spouse, career, lifestyle, attitude. All were choices. Your brain functions according to the choices you make. Make good choices and your brain will function to its optimum potential.

One tool to help make choices is called a PPC (Pluses, Potentials, and Concerns) Chart. Find a clean sheet of paper. Create three columns. Label them Pluses, Potentials, and Concerns. State the decision (choice) you want to explore, as clearly and concisely as you can across the top of the paper.

In the column marked Pluses, record all the positives that will happen if you make this choice. In the column marked Potentials, record all the possibilities: things that may occur because of this choice but not directly related to it. For instance if your question is "Shall I return to school to get a master's degree?" the Plus column will be full of jobs that require an advanced degree, increased salary, prestige, it will be good for my brain. The Potentials column might have items such as, it might lead into a new field of interest, it might excite me enough

to go for a doctorate. These are things that are not certain but might possibly be exciting extras. The Concerns column helps you look realistically at the choice, knowing full well that every decision has some possible downsides. The big difference here is that the concerns are written in a positive tone. Instead of, “I can't afford it,” state your concern as “How might I find the money to attend school?”

A PPC is a helpful tool in that it presents a visual picture and helps clarify and organize your thoughts. The next time you have a major decision (choice) to make, try using a PPC.

BRAIN BREAK

How many words can you think of that rhyme with:

Stop?	Swim?	Plow?
Call?	Fish?	Feet?
	Sleep?	

19 Childlikeness—Rediscover the Fun

Please note: *childlike* is different from *childish*.

Take a minute and think about the last time you looked at the world through the eyes of a child. I am talking about discovering the awe and mystery of your surroundings. Several years ago I walked down a mountain road at Watson Homestead, a United Methodist Camp and Conference Center, with a four-year-old. We stopped about every two minutes because Matthew had questions about everything: What is that? Why does the water come down there? How did those stones get there? It took us a long time to walk down that road, and it was fun—although I couldn't answer many of his questions. The point is I had walked that road many times and never seen the things Matthew saw. He helped me look at the world through his eyes and his discoveries.

Find a child and take a walk. It will help your brain to rediscover your world. You will tweak old neural pathways or perhaps start new ones.

20 Change Your Diet, Change Your Life

The word *diet* in today's vernacular has come to mean “going on a diet,” eating nothing but carbohydrates or proteins or only 1,000 calories or grapefruit at every meal or whatever. *Diet* really means a whole system of foods and nutrition. A good and sensible rule of thumb: Eat all things in moderation and move. Fill your plate, one-half with vegetables, one-fourth with carbohydrates (pasta, whole grain breads, brown rice), and one-fourth with meat/chicken/ fish. No one needs a sixteen-ounce Porterhouse steak! You will feel better, and your brain will thank you.

According to Marian Diamond and her colleagues at UC Berkeley, diet is the most important factor in the successful aging of a healthy brain. Diet is something you have control over. You make choices each time you go to the grocery store or to a restaurant.

Nutritionists are touting darker, richer colored foods as healthy choices. Foods with darker and richer color include more nutrients and are more beneficial for your brain and body. Make wise choices from the array of fruits and vegetables in the following chart.

Being a visual learner, charts work for me. For countless years, we have seen the “food pyramid” recommended by the US Department of Agriculture. We have been told to eat most of our food from the bottom of the pyramid: grains, breads, cereals, rice, and pastas. Fruits and vegetables comprise the second layer, with dairy and protein products coming next, and at the top of the pyramid, fats, oils, and sugars.

The Mayo Clinic has proposed a Healthy Weight Pyramid that places fruits and vegetables as the base, with carbohydrates at the second level, protein and dairy next, fats (the good kind) next, and at the top remains sweets (www.mayo-clinic.com—look for Food & Nutrition/Healthy Weight Pyramid). Once again, the lesson is you should eat most of your foods from the bottom.

<i>Color</i>	<i>Food Sources</i>	<i>Nutrients</i>	<i>Benefits</i>
Blue	blueberries	antioxidants	brain booster cancer fighter
Green	broccoli, Brussel sprouts, spinach, peas	sulforaphane luten zeaxanthing	cancer fighter
Orange	oranges, papayas, sweet potatoes,	cryptoxanthin alpha—beta carotene	cancer fighter eye portection

	carrots cantaloupes, mangos, apricots, pumpkins		
Red	tomatoes, red grapefruit, watermelon, red grapes, grape juice, apples, strawberries	lycopene flavonoids	prostate cancer fighter clot busters

Statistics, cited just about everywhere from *USA Today* to television talk shows estimate roughly 30 percent of US inhabitants are obese, with the prediction going to 40 percent in five years. Check this out for yourself simply by people-watching in a mall or airport and going to just about any restaurant. In the mall or airport, watch as people walk past; it is incredible the number of severely overweight people there are. Then step into just about any restaurant (except the most expensive—where presentation and quality supercede serving size) and order from the menu. What a shock! I seldom, if ever, eat the portion served. Going out to eat means at least two and sometimes three meals for me. Why? It is unhealthy, costly in terms of health insurance and time lost on the job, and not brain friendly to eat that much. Instead of your brain using all those good nutrients received from salads and good wholesome carbohydrates to help it function, the brain is dealing with artery-clogging fats that lessen the amount of blood and oxygen that can get to it. Become aware of portion size. A piece of meat/chicken/fish the size of a deck of cards is a good rule of thumb. If you need more food, think fruits and vegetables.

21 Add Brain Food to Your Diet

Have you ever been to a “brain bar”? I visited one in California. It is similar to a coffee house, but all that is served are foods and beverages meant to provide a brain boost for mental clarity. Trendy? Certainly; but the very fact that there were lots of people (most of them appeared to be in their thirties) in the brain bar speaks volumes about two things and a third possibility:

1. People want to take care of their brain;
2. Scientists have made a clear link between what you eat and how you think; or
3. Maybe that was the “in place” to be.

As mentioned earlier, diet is a key ingredient in brain fitness. This is something you do have control over. Every magazine and health food ad now touts the brain-boosting power of some food or supplement. Many of these ads contradict one another. What was supposed to be healthy last year is now *verboden* and vice versa. The following are substances that have been tested over time and are known to be essential for an optimally functioning brain:

- Antioxidants—vitamins A, C, E
- B-complex of vitamins, necessary for a healthy nervous system
- Calcium
- Fats—the right kind of omega 3's found in salmon, tuna, sardines
- Fruits—the darker the color the better: blueberries, red grapes, blackberries, oranges, and more
- Protein—fish and lean meats
- Vegetables—the darker the color the better: dark green leafy, red peppers, squash

Eating a balanced diet complete with foods from each of the major food groups and keeping your fat intake minimal will help you increase your brain fitness.

PLEASE check with your doctor before adding to or subtracting from your diet. This is NOT a prescription, rather some good ideas gleaned from hours of research in books, magazines, and Internet sites that are promoting healthy eating habits rather than specific products. Check out the facts for yourself; then talk with your doctor or a good nutritionist.

BRAIN BREAK

Think of at least four ways these items are alike:

fish/soap barn/motel bird/jet pencil/candle book/newspaper
wind/water

22 Consider the Mediterranean Diet

One of the hottest topics on the diet scene now is what has come to be known as the Mediterranean Diet. As researchers look for clues as to what causes

certain people to live longer and function better than others, one of the first things they check is diet.

For years it was thought that a glass of red wine was what kept folks in that part of the world healthy and gave them long life (the “French Connection”). Researchers now believe it is the food that provides these benefits. Roughly 60 percent of this diet is carbohydrates: pastas, whole grain breads, and cereals. Fats (the good kind) make up 30 percent of this diet: primarily olive and canola oils. Ten percent is made up of protein: fish, meat, vegetable sources (nuts, beans, legumes).

More and more research is suggesting longevity and healthy brain and body are the results of diet. Type *Mediterranean Diet* into your favorite search engine, and you will come up with many and varied articles that explain more about the health benefits and even some recipes.

23 Enrich Your Environment

Through many years of research with rats (did you know your brain is very similar to a rat's brain?), it was discovered that rats of all ages performed better when they lived in an environment that was enriched. For the rats this meant large areas to run, mazes to run through, toys to play with, and other rats to create a rat community.

What this research means for you is the more you fill your life with activities that will provide stimulation and enrichment, the better your brain will function. So what is enrichment? It differs for different people. For some it may mean going to the theater, to concerts, or to galleries. For others it means museums or finding art pieces that bring a sense of pleasure and enjoyment. Collecting anything from antiques to stamps brings a sense of joy in both the quest and the possession. Some folks are movie buffs and stand in line to see the first run of a new movie. Others enjoy travel or gourmet cooking. For some it is a well-executed golf or tennis swing. There are no right or wrong answers. Whatever it is for you, find ways to make your life full and rich, with experiences and activities that bring you joy and keep your mind working.

Another way to enrich your environment is to create an environment in your home and/or workplace with things that bring you pleasure. If a piece of artwork, a sculpture, a fine Waterford vase, photos of your family, or fresh flowers make you happy and smile inside and out, go for it. Surround yourself with things and people you enjoy. Please note, I am not into materialism; I get as much pleasure from daisies as long-stem roses or from a picture my grandson created as a Rembrandt. The point is to find a few things that bring you joy. My home right now is filled with lilacs; they are in every room, and the house smells wonderful.

24 Attend Elderhostel Programs

In 1975, two people in New Hampshire began the Elderhostel program at five colleges and with a few more than 200 participants. In 2002, the Elderhostel program had over 200,000 participants in nearly 10,000 programs in 90 countries around the world. This program was designed on the principle of youth hostels in Europe where youth could travel, learn, and live in a reasonably priced fashion.

This not-for-profit organization sponsors teaching academies for persons fifty-five and older who want to keep their brains fit and who enjoy learning. My goal is to teach at Elderhostels. I want to be with people who are alive and who are eager to learn and keep learning. I want to be with people who are willing to take risks and to see what else life has to offer.

The types of courses presented are limited only by what presenters have to offer. I have friends who travel all over the country finding interesting and exciting places to visit and learning opportunities that feed their brains.

Check the Web site www.elderhostel.org, and make some exciting discoveries about what is available for you. Some Elderhostels are service oriented, some strictly for learning, some for cooking, some on land, some on water, and even some where you can take your grandchildren along. How exciting and fascinating to keep learning lifelong!

25 Connect an Event with Emotions

Emotional Intelligence is a relatively new member of the brain team. Everything you experience is recorded not only by your rational mind but also by your emotions. Stop what you are doing right now and think about what you had for dinner last Tuesday night. Most people can't do that. I was impressed with one of my students until she fessed up and said it was her birthday dinner—which simply proves my point. Read on. Now, think about what you were doing when JFK was killed, or what you were doing when you heard about the Oklahoma City bombing, or where you were when you heard the news of the planes crashing into the World Trade Center on September 11, 2001.

Why can you remember these events? Because they were charged with emotion, similar in a broad sense to my student's memory of her dinner. When you connect an event with emotion, it will stay with you forever. Your emotional brain kicks in before your rational brain, fractions of a second before, but before nonetheless. You often respond in anger or joy or sorrow "without thinking."

Not every encounter you have is emotionally charged, but the big ones are. When you think that emotions do not count for much (just that fuzzy stuff) think again. So do not hesitate to get emotionally involved; it is good for your memory. Consider what a place, event, encounter is making you feel. This simple addition will help to encode it in your memory.

26 Experience Life

An “old Chinese proverb” quoted in education circles states:

You retain

10 percent of what you hear

30 percent of what you see

90 percent of what you do

If you want to learn something, you must experience it. You can hear instructions to create a birdhouse, look at a picture of a birdhouse, see an actual birdhouse; but until you build a birdhouse, you do not know how to do it.

Your brain needs you to experience life to learn from it. When you experience life in any form—tasting new foods, traveling to new places, learning new languages or skills, meeting new people—you are enhancing your brain's growth and fitness. Experience is a huge factor in creating new dendrite growth in the brain. Take life on. Become a doer, not a passive observer. Get your hands dirty, break a fingernail, get paint on your face, and just do it.

You become wise through experiencing life. Anyone can sympathize. You can only empathize if you have been there and experienced life to its fullest, both the joys and the sorrows. In some countries, older people are honored, revered, and considered wise. Unfortunately, this is not always the case in the United States. If you know an older person whom you consider wise, ask that person to share some of her or his wisdom with you. You will both be enriched by the experience.

In my graduate work, teams of students, working on a major project, created a video archive of the great names in the field of creativity. These people were the pioneers who had to fight uphill battles to get the world to acknowledge the fact that creativity was a discipline to be reckoned with and treated with respect. Their knowledge is indispensable and had to be recorded before they were no longer able to supply the answers to seminal questions in the field of creativity. What a treasure we now have because of these people's experiences and the experience of those who created the archive.

The same concepts hold true for you. Record a grandparent or mentor while you still have the opportunity. There is a wealth of knowledge in their experiences.

BRAIN BREAK

Consider what you would do if a dear old uncle left you a million dollars in his will. How would you deal with the money?

27 **Forgive Others as God Forgives You**

My mother's advice about prayer (God does not change when you pray, but you do) holds true for forgiveness. The person you are forgiving may not change, but you do. It is harmful to your body, mind, and soul to harbor a grudge; wrong as the act may have been in your mind, you are still the one who produces negative thoughts and feelings. It is your body that produces harmful cortisol (or hydrocortisone). Forgiveness is a gift you give yourself.

In the Sermon on the Mount, Jesus talked about forgiveness (Matthew 5:21-24). He said we should make peace with anyone with whom we are angry before going to offer gifts to God. In Matthew 6:14-15, immediately following the Lord's Prayer, Jesus also speaks about forgiving others.

It is amazing what a sense of relief, well-being, and obedience you discover when you forgive someone. Let God deal with the issue; you deal with your wellness.

In a course I taught on "Managing Change and Conflict," I showed a film about a high school gym teacher who was attacked on the playing field by a young man high on drugs. This teacher was hurt terribly and lost one eye. He will never work again. After many months of hospitalization and rehabilitation, the teacher decided to forgive his assailant. To the astonishment and anger of some friends and family, the teacher went to see this young man in prison and forgave him. This act was life-changing for both the teacher and his assailant. The young man could not believe that anyone could forgive his drug-high act of violence. These two people have teamed to work together to tell their story to young men in high schools. They have devoted their lives to getting young people off drugs. It is a miracle of forgiveness.

28 **Floss**

In every aging test I have taken, one of the questions is “Do you floss your teeth?” Apparently this simple act is of great consequence for maintaining health. If you keep your gums and mouth disease free, you cut the risk of damage to your immune system and keep your body, which is connected to your brain, healthy.

29 Find a Cause to Work For

We believe, and research supports this fact, that doing for others—giving beyond yourself—keeps you and your brain active, fit, and flourishing.

There is always someone who needs help. Forever and always, there are people who, for one reason or another, are in need of some additional TLC. This caring comes in many forms and calls for many different kinds of skills. Surely, there is a place for your gifts. Volunteering your time offers rewards in the form of an infusion of endorphins that spread through your body, helping maintain both physical and mental health. You cannot get this in a pill. It only comes from offering your skills, talents, time, and smiles to those in need.

Countless stories and witnesses of people who work at doing for others are about how much they gained from the experience. We are not talking gains that can be measured in dollars or tangible gifts but in spiritual contentment, in feelings of well-being, of making a difference in someone's life. These are things that have no monetary value but that hold a value far higher than money can buy.

A legendary story about Mother Teresa tells of her kneeling and holding the head of a child to keep his face out of the gutter in Calcutta. A photographer was passing and recognized a “photo op.” He is reported to have said, “Mother Teresa, you are amazing. I wouldn't do what you are doing for a million dollars.” Her reply was simply, “Neither would I.”

When you go out of your way to help others, your own troubles, aches, and pains seem to take a backseat. You are filled with wonderful feelings, wonderful thoughts. Since the mind and body are totally interdependent, what you do for one, you automatically do for the other.

In your secular community and within the church are countless opportunities to provide such care. The main requirements are an open mind and heart and a willingness to serve others.

Some Possibilities

S.C.O.R.E.: Service Corps of Retired Executives

These folks work with groups or individuals who are just starting out in the work world. Often they are beginning their own small business or learning a new skill to be more employable. Check your local Chamber of Commerce to see if there is a S.C.O.R.E. chapter near you; if not, start one.

F.I.S.H.: Friends in Service Here

These folks volunteer to be on call to transport folks, to run errands, or to do other chores for low-income, elderly, or disabled persons or for those unable to provide requested services for themselves. Having been unable to drive for two months due to a broken right ankle, I can appreciate the blessings of these folks.

MEALS ON WHEELS

Just about every community has one of these groups. They are the saints whose official job is to deliver hot meals to folks who are homebound. Their unofficial job often includes simple tasks (to us), hand holding, chatting, securing items out of reach, fluffing a pillow. The physical presence of another human being can be the bright spot of any day for the recipient. For the person performing this ministry, the gifts abound in the form of smiles, hugs, blessings, and an inner peace that has incalculable, nonmonetary value. Folks who perform these ministries do not do it for the money; they do it because they believe in Jesus' command to love your neighbor as yourself.

SOUP KITCHENS:

Often, but not always, these places to feed homeless or hurting people are housed in churches. They have wonderful names like Loaves and Fishes, A Meal and More.

N.O.M.A.D.S.: Nomads On Mission As Divine Service

This is a country-wide group of adults who own (or can borrow) RVs. They travel in groups to a site and spend as much time as needed helping to paint, repair, build, tear down, plant, and other tasks. They love their mission, and all of the members I have spoken with say this is a major highlight of their time. They are doing God's work by helping others, along with having fun. They all claim they receive far more than they give.

PRIME TIMERS

This group of older adults is on call to go anywhere the need is. They are people who will help in any way they can in any circumstance where they are needed. They love what they do; and the only complaint I have heard is, “They don’t give us enough to do to keep us busy.”

V.I.M.: Volunteers in Mission

These adults of all ages travel to places where there is need. When we were traveling in Israel, we met people serving at the Bethlehem Bible College just outside the city. They told us they were on a V.I.M. trip, many of them for the third or fourth time. They go and spend a month or more helping in whatever capacity they can.

Many opportunities are driven by your passion. Often a group of individuals will take on an issue in the community. A group of folks in my area have the time to attend meetings on community issues and will often show up to march or carry picket signs for causes they believe in. It is cold in Rochester as I write (the thermometer is registering -2 degrees, not counting wind chill). I was driving to an appointment and passed a group of people in a silent vigil outside an abortion clinic (remember I said it was -2 degrees). Each time I pass this site three or four people are there, sometimes with signs and posters, sometimes with Bibles, sometimes just praying outside the clinic. Find a cause and work for it.

Some adults volunteer to “fold and stuff” for political campaigns or major fund raisers for an art gallery, museum, or orchestra. Folding and stuffing, while not glamorous, can be fun. You meet interesting and like-minded people, and the hours fly by. Without folders and stuffers, the word would not get out. Sometimes volunteers get perks like tickets to the event they are working for or lunch brought in by the organization. If there are no perks, it is still a neat way to spend some time.

Find a way to give of yourself, and everyone wins.

Many adults volunteer at schools reading to children or helping with activities. In our society, where often grandparents and grandchildren are hundreds of miles apart, this is a delightful way to keep connected with children and to expose them to surrogate grandparents. We have a day care center at my church. “Grandpa Dick” comes in twice a week to work with the three-year-olds. They love him and cannot wait to crawl into his lap for a story or a hug. He has reported hearing his name called at the mall or grocery store and ending up with a child running to claim a hug. What a gift! Everybody wins.

30 Play Games

Humans have played “games” as far back as anthropologists can trace in history. There is evidence of tick-tack-toe games found in ancient Egyptian temples, floors of Roman ruins, cathedrals in Canterbury and Salisbury, and Westminster Abbey.

Games are for children you say. True, children learn an incredible amount of information by playing games. The children in the after-school program at my church play games to learn about following rules, taking turns, playing fair, and working in teams. They also use games to learn arithmetical calculations, sequencing, matching, spelling, vocabulary, and movement. Their teachers are creating neural pathways that can be strengthened and kept growing throughout their lives, which leads to us bigger kids.

Games are not just for children. Getting involved in playing games is a prime avenue to maintaining brain fitness.

Games come in all types and for various numbers of players. Some are quite sophisticated, requiring intricate mental calculations and well-planned moves. Other games are created from materials on hand—sticks, stones, shells. The one thing all games have in common is a strategy. You must decide moves to help you win. If you are playing by yourself, against an opponent, or on a team, whether the game is physical or mental, there is still the element of strategy. Strategy requires brain work. Any activity that incorporates mental muscle helps strengthen your neural connections.

Let's look at some games that strengthen your brain:

- *Card games*—Bridge, canasta, euchre, gin rummy, poker, and countless other card games require you to think, to make educated guesses about your opponent, and to plan a strategy to win. Even playing solitaire, either online or with cards, requires you to think and plan ahead for next moves. These kinds of activities are what your brain needs to remain fit. If you have played bridge a good part of your life (I became addicted in college.), learn to play canasta or euchre. Give your brain a different challenge.
- *Board games*—Monopoly, Trivial Pursuit, and Clue are but a few adult board games that help you to think in different ways and work different parts of your brain. Other kinds of board games, such as chess (arguably the epitome of concentration and strategy), checkers, Chinese checkers, and backgammon, also make demands on your brain.
- *Games with pieces*—Games such as dominoes, mahjong, and Scrabble work both hands and head.

- *Computer games*—Solitaire, Spider Solitaire, Free Cell, and Tai Pai are my favorites. As mentioned earlier, these games require brain power and concentration without the rapid eye-hand coordination that slows as you grow older.

- *Physical games*—Some folks continue to play softball, volleyball, basketball, tennis, and golf well into their later years. We have a “Geezer” basketball league in our town—my church has a team. You must be at least fifty to participate. It keeps the natural athlete in prime shape and keeps the competitive adrenaline flowing. People play tennis late in life, and the PGA has the Seniors Tour. If you are physically fit, no need to stop playing games you enjoy.

- Some folks need less strenuous physical games. No problem. Bocce is one of my favorite games. Men in Italy and in Italian communities here play Bocce almost as long as they can stand up. Horseshoes, croquet, and shuffleboard are less strenuous games that still keep you outdoors and active.

Other components beyond challenge make games an important part of brain fitness. Aside from solitaire and many computer games, most games require one or more other people. This helps keep your brain fit as you play in community. New friends, new faces, new strategies for playing make games fun and challenging. I would add one caution: Play games only with people who are fun. Some folks think games are about nothing but winning and become irritated when they lose or when someone makes a mistake. Run, don't walk away from folks like this. They take away all of the positives of playing games and simply add stress. Avoid these folks at all costs.

Often games provide a sense of teamwork, support, encouragement, and affirmation. All of these are positive additives for your brain's health. Games that require interaction stimulate your Interpersonal intelligence. You learn to read other people. The term *poker face* comes from this kind of experience. Sometimes you can read what a person sees in her or his cards by watching expressions or body language. To maintain a poker face is not to allow your emotions to show. Most of us do not do that very well, so playing team or opponent games can hone your skills at reading other folks. Laughter is often a plus of playing games. As you will discover in Number 32, laughter is good for your brain and your body.

BRAIN BREAK

Think of your life as a punctuation mark. Decide what you are—! ? . , : ;—and why.

31 Be Aware of Gender Differences in the Brain

There is a genetic difference between the male and female brain. NOT better, NOT worse, just different. A few of the differences that separate the genders:

- Brains in males are larger. This has nothing to do with being smarter; they are simply bigger. Intelligence is based on strengthening neural connections and not storage of information that creates weight and consumes space.
- The corpus callosum, the fibrous tissue that connects the left and right hemispheres of the brain, is stronger in females. This seems to imply that females can transfer information between the two hemispheres more easily than males. Females tend to integrate information more rapidly than males because the transfer is easier.
- Most experts agree that males generally have a stronger tendency to be right-brain dominant, while females tend to be left-brain dominant.
- Females often speak earlier than males and have a greater ease with language.
- Males tend to have a stronger propensity toward spatial functioning.

The gender differences are slight. Most scientists believe these differences can be attributed to nurture more than nature. Don't go betting the farm on gender differences in your brain. Simply be aware that to some degree they exist.

32 Find Something to Laugh About Each Day

Laughter has been referred to as internal jogging. Author and editor Norman Cousins is known as the father of “psychoneuroimmunology” (PNI). Cousins and his colleagues have determined that laughter is healthy. They have been at the forefront of using laughter in hospitals and nursing homes to implement recovery from life-threatening illness. The movie *Patch Adams* brought this theory to the public.

Humor is also a major part of business and industry. I live in Kodak Country, Rochester, New York, home to Kodak and several other major corporations. Kodak had a humor lab, run by a colleague of mine. When groups were working

on a project and ideas seemed to dry up or things got tough, team members would take a field trip to the humor lab and spend some time with jokes, silly toys, and a sense of playfulness. This field trip to the humor lab helped in several ways. It eased tension, promoted creative thinking, got people to see their problem from a lighter side, and often provided insights that surfaced for the first time. From the standpoint of the brain, moving, changing locations, laughing, and novelty are all brain-effective moves. Try it the next time you find yourself in a rut.

Top Ten Reasons Laughing Is Good for You

10. Improves blood circulation
9. Enhances creative thinking
8. Exercises your abdominal muscles
7. Increases the number of immune cells
6. Expels stale air from your lungs
5. Aids your digestion
4. Releases muscle tension
3. Decreases cortisol (bad neurotransmitters)
2. Increases endorphins (good neurotransmitters)
1. 100 laughs provide the same cardiovascular benefits as ten minutes of rowing (and it's more fun)

All of these chemical reactions help keep you healthy, brain and body.

Some good news: Psychologists who chart laughter on an EEG have discovered that each time you laugh, at least five separate areas of your brain are called into action.

Some bad news: Psychologists who study these things say that in our culture the number of times you laugh peaks at age six and declines as we grow older. So, start today to alter your own cultural norm and laugh a lot.

Can you fake laughter? Your body knows when you are really laughing. When you truly laugh, your emotional self as well as your physical self is involved. Your mind and body are indeed connected.

Laughter as being healthy is not a new concept. Scripture says, “A cheerful heart is a good medicine” (Proverbs 17:22).

I suggest you keep a humor file. Here are some good sources of humor:

- *Daily comic strips*—There is something to make just about anyone laugh. I know people who read the comics first in the paper. They say this helps them read the rest of the paper.
- *Reader's Digest*—Several different kinds of jokes are presented throughout the magazine. Find the ones that make you chuckle.
- *The Internet*—Many “joke of the day” sites will help you receive a laugh each day.
- *Calendars*—Find a desk calendar to get your laugh each day. I always began the day with a *Far Side* calendar. It was fun to see what Gary Larson had come up with to make me laugh. I miss it terribly.
- *Joke books*—Any good bookstore has a multitude of such books. Find one that ties into your humor.

Each of you is unique. Find the kind of humor that tickles your funny bone and indulge in a few minutes per day of laughing. Several things determine humor preferences:

- *Gender*: Men and women like different kinds of humor; this comes as no surprise, right?
 - In general men prefer humor that is silly or slapstick, crude, physical, and/or aggressive.
 - In general women prefer humor that involves raising children, relationships, romance, other women.
- *Topic*: Some folks will be offended by jokes about religion or sex or that use crude language
- *Age*: Telling older people jokes about today's personalities or movies may be lost on them. Telling young people jokes about folks who were famous before they were born will be lost on them. I once told a wonderful joke about Y. A. Tittle, God, and Vince Lombardi. Only a few folks laughed—my audience was too young. Be as sure as you can about your audience when telling a joke.

I would like to share a few “great mystery” jokes gleaned from many places that make me smile.

It will always be one of life's great mysteries that

- a two-pound box of candy can make you gain five pounds;
- time may be a great healer, but it's a lousy beautician;
- you hang something in your closet, and after a while it shrinks two sizes;
- age doesn't always bring wisdom; sometimes it comes alone.

Wisdom saying: Never park in a space marked “Sheriff.”

Pick a Punch Line:

Read the joke and then select the punch line that you find most amusing; or create your own.

A beautiful movie star made a visit to a nursing home. As she prepared to speak to the crowd of octogenarians, she asked, “Do you know who I am?”

(Select the punch line you find most amusing.)

“Yes, but ten minutes after you leave we'll forget.”

“No, but if you ask one of the attendants, someone will tell you.”

“No, I must have fallen asleep during the credits of your last movie.”

Create a Caption:

Invite friends to bring a cartoon from a magazine or a newspaper, eliminating the caption. Invite each person to create a caption. Post the best ones.

Pin a cartoon on the door minus caption. Invite anyone who passes to write a caption until your door is filled with wonderful ideas.

Or

Find cartoons and fill in the name of someone you know in the (non-hurtful) caption.

BRAIN BREAK

Think of as many uses as you can for a hymnal. Aim for at least thirty different uses. I chose a hymnal; you can do this mind-stretching exercise with just about any object (fabric softener sheets, paper towel rolls, olive oil). See how far you can get.

33 Incorporate All of Your Intelligences Daily

You have at least seven different intelligences. Each of them is brain local; they are housed in a specific part of your brain. It makes sense, then, to use each of these intelligences every day to stimulate different parts of your brain.

Howard Gardner of Harvard University is the father of the Multiple Intelligence theory. He has become a world-renowned leader in this field. Many school systems across the country and around the world have incorporated this theory into practice with remarkable results.

The theory applies to all people of all cultures and backgrounds and of all ages. I have been writing about, speaking about, teaching about Multiple Intelligence Theory for more than a decade. It is an awesome thing to watch people begin to realize that even though they do not have an IQ of 167, they are smart in other ways.

Let me supply a brief outline of the seven core intelligences and some suggestions as to ways you might incorporate them into your daily life. (See chart under activity "33 Incorporate All of Your Intelligences Daily")

Core Intelligences

Intelligence--Verbal/Linguistic

*Description--*reading, writing, speaking, listening

*Practical Application--*word games, conversations, writing notes, reading newspapers/magazines/books, talking, and listening

Intelligence--Logical/Mathematical

*Description--*math, problem solving, sequencing, categorizing

*Practical Application--*balance your checkbook, plan your day, make and follow a "to do" list, think of five right answers to a problem

Intelligence--Visual/Spatial

*Description--*visual clues: maps, graphs, video, TV, magazines, finding your way around an area

Practical Application--draw a map to run your errands, draw your ideas or shopping list, find your way around a specific area

Intelligence--Musical/Rhythmic

Description--using sound, tone, pitch, rhythm, listening to all of your surroundings

Practical Application--sing along with an oldies station, listen for sounds outside, make up silly songs as you do your daily work, work at determining a person's mood by his or her voice tone, pitch

Intelligence--Body/Kinesthetic

Description--

Practical Application--

Intelligence--

Description--using your whole body to gather information and to increase your learning power

Practical Application--use your senses daily to help you learn, determine objects by their texture and size, type

Intelligence--Interpersonal

Description--communication and reading, body language, determining people's moods, working on teams

Practical Application--work on committees, shop with a friend, talk over problems, be in community, maintain relationships

Intelligence--Intrapersonal

Description--self-knowledge, reflection, thinking things through, becoming your own advocate

Practical Application--build in quiet time, journal, create your own space, take time to think, take the phone off the hook

Top Ten Ways to Increase Your Intelligence

10. Read the paper every day
9. Do puzzles—word and picture
8. Be in community
7. Talk and listen to others
6. Build something from scratch (a cake, a house)
5. Set personal goals to work toward
4. Read a book/magazine in a new field

3. Learn a foreign language
2. Take a course (continuing education, YMCA, local college)
1. Teach something to someone else

In addition to understanding the nature and scope of “intelligence,” current research continues to reveal startling facts about our potential. The human brain is truly phenomenal. Consider the following information. Your brain

- is more flexible and multidimensional than any supercomputer.
- cannot be separated from your body; they are one entity. What you do for one, you do for both.
- learns from all parts of your body. “Intelligence” is located not only in the brain but in cells that are distributed throughout the body.
- is unique. Of the six billion people currently living and the more than ninety billion people who have ever lived, there has never, unless you are an identical twin, been anyone quite like you. Your God-given gifts, your fingerprints, your DNA, your dreams, are YOU—unprecedented and unique.
- is capable of making a virtually unlimited number of synaptic connections or potential patterns of thought.
- can learn through various “intelligences.” We now know that IQ and SAT scores are not the only measure of intelligence or arguably even the best measure.
- benefits from both nature (genes) and nurture (the enriched environment you provide), remains plastic throughout life, and can learn and grow if you care for it properly.

Once you begin to understand these amazing facts, you will no longer pre-limit your potential or the potential of your children or grandchildren. Your amazing brain makes all things possible. (See Bibliography, in the "Appendix" section, for more in-depth information.)

34 Go on an Infinity Walk

Dr. Deborah Sunbeck has been training people from preschool to nursing homes in using the Infinity Walk, walking the infinity pattern (a sideways figure eight) to stimulate brain functioning.



Find a place that is large enough to walk in a figure eight that is free of furniture or clutter, about six feet square. Mark an X on the floor in the center of the area. Pick out something to focus on—a picture, a window, a vase of flowers. If there is nothing, put a piece of paper on the wall at eye level. First simply walk the figure eight crossing your direction on the X. Practice once or twice. Then walk again, swinging your right arm with your left step and vice versa. Practice a few times. Next talk with someone or sing to yourself as you walk; keep eye contact as much as you can if you are conversing with someone. Practice combining all three activities. Then focus on your selected object, and keep your eyes on it as you walk. Your eyes will have to focus from side to side as you walk.

You are stimulating your brain in several ways as you practice the Infinity Walk. They all have to do with involving both hemispheres of your brain. As you walk this infinity pattern, you switch the dominance of left and right brain across the midline of your body.

Victims of brain attacks (a.k.a. strokes) benefit immensely from continued use of this exercise. I have seen video tapes of a stroke victim and the amazing progress made in his abilities in just one month of exercise.

My mother-in-law was suffering from dizziness. I coached her in the Infinity Walk, and within a week her problem was alleviated.

Children from preschool to fifth grade and adults from my church are participating in a training video that will be used around the country to help children, youth, and adults learn this amazingly helpful and fairly simple exercise. We are quite excited about the myriad of possibilities.

You can learn more about Dr. Sunbeck's work by going to www.sunbeck.com.

BRAIN BREAK

I have provided the answer; you come up with at least three questions for each one:

At the beach.

They swim.

Cats.

A snake.

Under the bed.

No.

After midnight.

The moon.

35 Journal

A journal is NOT a diary in the sense of “. . . took the dog to the vet and had lunch with Sally.” It is a book, structured or unstructured, in which you record feelings, thoughts, emotions, discoveries, and anything else that is on your mind. We know that often journaling is catharsis. Journaling is a tool to help your brain sort, record, and recall.

While there is no right or wrong way to journal, if your purpose is brain fitness, you might think about

thoughts and feelings from what you experienced throughout the day:

- an argument
- a personal growth experience
- a gut feeling of . . .
- something that made you laugh or cry

questions about your experiences:

- what led up to this experience?
- why did it affect me the way it did?
- what is the learning from this experience?
- how else might I have reacted?
- what, if anything, do I need to do about it?

“Right,” you say, “like I have all this extra time with nothing else to do.” A journal does not need to take tons of time—just a few lines to gather your thoughts and feelings. For optimum learning, your mind needs to process information to get anything out of it. If you do not take the time to process information either verbally or by writing (as in your journal), you miss opportunities to learn and grow.

Often, as an adult, you walk through life as if you are in a fog, doing what you always have done without giving much thought or effort to it. This kind of activity does not afford you much brain growth and strength.

Look at your daily routine through new eyes, ears, tastes, touches, and smells. Awaken your senses and discover a new way to look at life. Your brain will be appreciative.

Go to Numbers 68 and 69 for a more complete explanation of why writing is good for your brain.

BRAIN BREAK

Recite the alphabet from Z to A. Now try singing it.

36 **Keep Doing What You Enjoy**

I have friends who cannot wait for spring so they can get out in their garden (me too). These folks check every day to see what new wonders await them in the form of green shoots emerging from the cold dark earth. One of these women has severe arthritis. Instead of giving up and complaining, she has found ways to work around her pain and stiffness. Daily, you will find her out, sunhat and work gloves on, rearranging her flower beds, weeding, snipping and snapping at her prized petunias and gorgeous geraniums.

Another friend washes his car out of necessity but spends hours polishing the chrome on his motorcycle. I have friends who begin snow dances in early November, skis waxed and sharpened and boots ready. I have friends in their seventies who exercise three mornings a week and walk the days between.

Other friends go to the church every Wednesday morning to work for several hours, getting ready for the Super Sale. These folks do not go because they have to; they go because they want to. They are helping the church and spending several hours in community with friends, laughing, joking, and sharing their stories. I have friends who work at Habitat for Humanity or Meals on Wheels. They go rain or shine. They go if they are feeling great or if they have aches and pains. These folks also go because they know they are making a difference in someone's life. They still feel like they are contributing something of themselves to a cause that is greater than self.

None of these folks are twenty or even thirty. Most of them are retired or are ready to be. The one thing they have in common is a passion for what they do.

This passion for what they are doing keeps them (brain and body) fit and energized.

Some of these folks say that some mornings it is harder than others to do what they do. But they do it anyway. They refuse to give in to self-pity. They know that what they are doing is going to keep them going longer and better. So think about what you love to do and just do it.

BRAIN BREAK

Take a paper and pencil, and write out directions for creating a cheese omelet for someone who has never made one before. Complete this task in thirty-seven or fewer words.

37 Learn Life Long

Lifelong learning is not just a good idea; it is a crucial ingredient to keeping your brain fit. Your brain is created to learn; that is what it does best. Lifelong learning is about curiosity, about being open to new experiences, about asking questions. Learning is a natural process. Information is exploding around us; it is out there for the taking. Learning will help you immeasurably in keeping your brain fit to keep learning.

Top Ten Ways to Lifelong Learning

10. *Find some new interest to learn about.* Everyone has areas in which he or she knows something and is comfortable. Break out of your comfort area, your already knowledgeable area. Your brain gets minimum exercise from doing what it already knows. To give your brain a good workout, find something totally new to learn about.

9. *Find a focus.* Choose something new you want to learn about. Then limit your focus to a specific area of that field. This action plan helps the brain to remain focused and eliminates the overwhelming feeling of too much new information. It also allows the brain to make connections with what it already knows and strengthens neural pathways.

8. *Find resources.* One of your best resources is your library. You will discover that librarians are willing and helpful and offer a wealth of information. The Internet is another excellent resource with search engines like Google and Yahoo.

7. *Keep open to possibilities.* The only limits to your learning are those you impose. Be open. Do not limit yourself. Find something totally out of your regular range of knowledge. Learn to speak a foreign language, to paint or sculpt, to play bridge or chess, to sew or sky dive. The object of your new learning is not as important as finding something that you have always wanted to learn about and doing it.

6. *Practice synergy.* Find a partner or learning buddy. Two people learning together encourage each other and bring different perspectives to the learning. Small groups in the church are an excellent source for a study group. The learning becomes twofold; you learn on your own and you learn as people in your group share their thoughts and feelings.

5. *Discover opportunities.* Every community has continuing education courses through a college or university, local school systems, the Y or the Jewish Community Center. Look in your local newspaper or make some phone calls to find out what is available in your community. These classes often are low cost and local, so they are convenient and accessible.

4. *Push the envelope about how you learn.* Everyone has preferred ways of learning. Discover what your most preferred learning areas are (See Number 33 and the Bibliography for books on Multiple Intelligence Theory.) and then venture into another mode of learning. Discovering new ways of learning creates new neural pathways and opens possibilities for discovery that you might not have considered.

3. *Ask questions.* Questions are your most powerful learning tool. Questions are more important than answers. No question is foolish if you do not know the answer. All of us have areas of expertise and areas that we need to learn about. Questions lead to deeper levels of understanding.

2. *Teach someone else.* The true test of learning something is the ability to teach it to someone else. I believe that you do not truly know something unless you can teach it. The best way to learn is to teach. I have said the same thing three different ways. Trust me.

1. *Learn for the pleasure of learning.* Learning creates its own rewards. Learning is the best food for your brain. Learning is not a destination but rather an exciting lifelong journey.

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38 Remember, Lifelong Learning Is a Matter of Attitude

Positive Beliefs

Mistakes are an alternative way to learn something new.

Negative Beliefs

Mistakes confirm the fact that I cannot learn something new.

Positive Beliefs

Learning takes time. Perseverance and a wanting to learn are what counts.

Negative Beliefs

If I cannot learn it the first time, I might as well just forget it.

Positive Beliefs

Enlisting others in learning is a big help to all parties involved.

Negative Beliefs

I should be able to learn something on my own.

Positive Beliefs

Learning strategies and concentrated effort are determiners of success.

Negative Beliefs

The main determining factor of learning is the genetic intelligence I was born with.

Positive Beliefs

Everyone is capable of learning throughout life.

Negative Beliefs

Only the brightest can continue to learn throughout life.

39 Listen

The greatest gift you can give a person is to listen. Listening is a skill. Unfortunately you do not receive much, if any, training in it. Oh yes, you listen to

people all day, every day; but often the listening is peripheral. In the class I taught on managing change and conflict, we spent one entire session on listening. I used the following chart and surprised the students:

ORDER LEARNED

Listening--1
Speaking--2
Reading--3
Writing--4

AMOUNT USED AS ADULT

Listening--45%
Speaking--30%
Reading--16%
Writing--9%

TRADITIONAL INSTRUCTION

Listening--0
Speaking--1 YEAR
Reading--8 YEARS
Writing--12 YEARS

My guess is you do not spend much time in really listening. Listening can be taught and learned. It can also be a matter of discipline, training yourself. Following are some tips. Some of them are common sense. Some require concentration. All require your undivided attention.

When you are engaged in active listening, you listen with your entire body.

You listen with your eyes. Sometimes, when watching a person talk, you learn more from the person's body language than from the words he or she says. Since your mind/brain and body are totally connected, they work together. Try this experiment. Stand up. Slouch and slump and say the words, "I'm having a great day. Isn't this exciting?" How does it feel? Can you do it? Not easily, and it feels wrong. Now try the opposite, stand tall, shoulders squared, head up, smile on your face, and say the words, "I'm so depressed. Why does this always happen to me?" What happened? You see, your mind/brain and your body need to agree to present an effective message.

You listen with your body. Active listening means focusing on the person speaking. Try leaning in toward the person; looking at the person (not staring); and keeping your attention on her or him, not looking around the room at other folk.

You listen with your ears. Active listening means just that, listening, NOT offering advice or waiting impatiently to tell your "I can top that" story. It means listening

and asking clarifying questions, such as, “tell me more” or “do you mean . . .” or “what I'm hearing is . . .” This helps both you as listener and the person speaking to clarify what is being said. Sometimes all a person really wants or needs is to have someone listen without judging or interpreting.

I am not a trained counselor, but I am a trained listener. Often I believe the two are synonymous. When persons come to my office and close the door behind them, I know he or she wants me to listen. I ask to have calls held and sit across from the person (NOT behind my desk), and I listen. I will make small encouraging sounds and sometimes ask the clarifying questions mentioned above. I never offer advice or make suggestions. I will ask, “What do you think you should do?” or “What is your inner voice saying?” These people invariably leave thanking me for my help. All I did was listen and give them my undivided attention. It is a gift beyond price.

When I go to a party, I find the inevitable person who is off by himself or herself, trying very hard to remain anonymous. I ask if I can join her or him and then proceed to ask about the person. Even a shy person will open up in a one-on-one situation. Asking someone to tell me about herself or himself and really listening is a neat gift to give to the party phobic or just plain shy person. It seldom fails. I make a new friend, make the party a pleasant experience, and often learn something neat.

Read the following anonymous poem and think about it.

Listening Poem

When I ask you to listen to me and you start giving advice, you have not done what I asked.

When I ask you to listen to me and you begin to tell me why I shouldn't feel that way, you are tramping on my feelings.

When I ask you to listen to me and you feel you have to do something to solve my problems, you have failed me, strange as that may seem.

Listen! All I ask is that you listen.

Not talk or do—just hear me.

Advice is cheap: \$1.50 will get you advice in the morning newspaper.

And I can do for myself; I'm not helpless.

When you do something for me that I can and need to do for myself, you contribute to my fear and weakness.

But when you accept as a simple fact that I do feel what I feel, no matter how irrational, then I quit trying to convince you and can get about the business of understanding what's behind this irrational feeling.

And when that's clear, the answers may be obvious and I won't need advice.

So, please listen and just hear me.

And if you want to talk, wait a minute for your turn; and I'll listen to you.

BRAIN BREAK

STILL MORE (fun) QUESTIONS

These questions are harder than you think. They will show you how little we pay attention to the commonplace things of life.

1. On a standard traffic light, is the green on the top or bottom?
2. How many states are there? (Don't laugh, some people do not know.)
3. What two letters do not appear on the telephone dial? (Don't look.)
4. When you walk, does your left arm swing with your right or left leg?
5. On the United States flag, is the top stripe red or white?
6. Which way does water go down the drain, counterclockwise or clockwise?
7. Which side of a man's shirt are the buttons on?
8. Whose face is on a dime?
9. How many sides does a stop sign have?

10. Do books have even-numbered pages on the right or left side?

11. How many sides are there on a standard pencil?

12. On the back of a \$1 bill, what is in the center?

13. How many curves are there in the standard paper clip?

(See "Answer Section")

40 Sharpen Your Memory Daily

Memory—without it the “you” that is you ceases to be. Memory is what makes you unique—all the life events that have shaped you and created your history. The power of memory is the power source of your life.

Where did I park the car? Where did I leave my keys? Why did I come down here? If you have asked yourself any of these questions or other similar ones, you are not alone. I had a thirty-something woman walk into my office and say, “I know I came in here for something. . . .” My reply was, “Thank God. If someone your age is doing that, there is hope for the rest of us.” We all do it. For the most part it may be blamed on “brain overload.” We just have too many things going on at once.

So what is responsible for this fuzzy feeling? It is your memory. Your memory is incredibly complex and extremely fascinating. Your memory holds the sum total of your existence. You have all heard stories of people suffering from some form of amnesia. They have no idea who they are, no knowledge of their past experience, no recognition of friends or family. What a horrible experience that must be. Their personhood is gone.

Memory is created from all of your sensory input, is stored for seconds (or less) in your short-term memory, and then your amazing brain decides if it warrants storing in your long-term memory. (See following diagram on "Information Processing Model".)

Creating memory is a complex process. Think of the last time you heard a song on an “oldies” station and you could sing along with all (or most) of the words. How about smelling a pipe or baking bread and being instantly reminded of people/places that went with that smell. Or yet again, think about playing bridge when you have not played since college days. How can you do that? It's all in your brain.

Your brain is functioning 24/7, even when you are sleeping. It is constantly recording information that is all around you. Think about what it would be like if you could remember every detail of every event of every day of your life. The word *overwhelming* comes to mind. Your brain is again awesome and incredible. Your brain is constantly filtering your images and input. It does a wonderful job of sorting and discarding the minutia and maintaining what it deems to be important.

So, how does your brain accomplish this amazing task? That is where memory comes in. Each of these memory systems gathers, stores, and uses information in different ways. (Please note there are volumes printed on nothing but memory; this information is encapsulated.)

In my mental aerobics classes, the one subject students want to know the most about is memory. So I spend one whole session on memory. This makes sense, since memory plays such an important part in our lives and the loss of memory invokes fears of impending problems at best and of Alzheimer's disease as a worst case scenario.

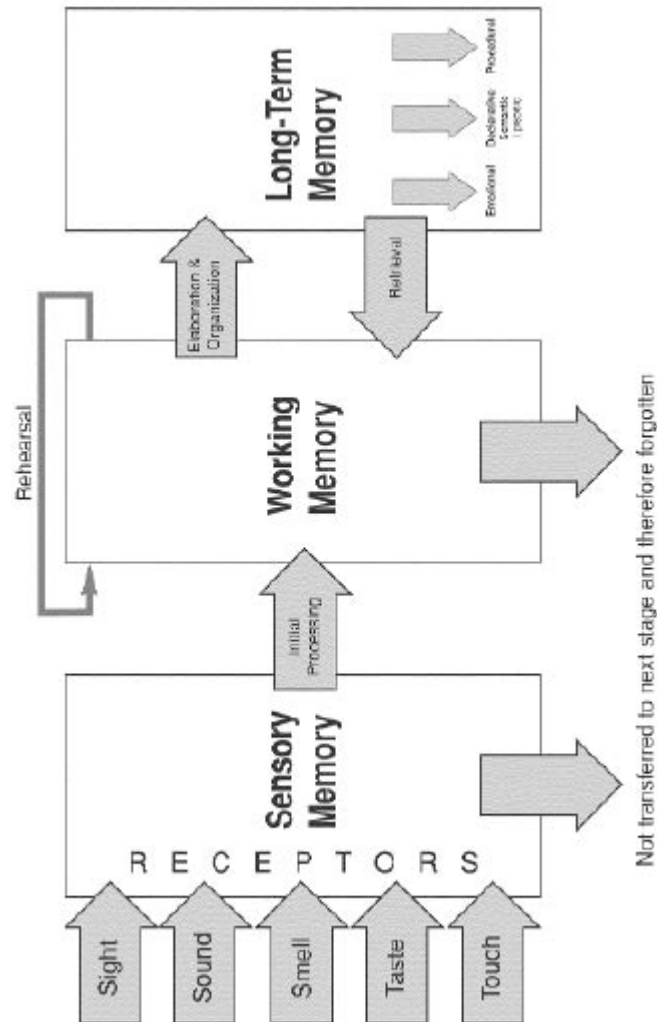
I will spend a bit of time explaining how memory works (very brief synopses) and a lot of time providing tools and techniques to help you keep your memory functioning well. We all can use “memory extenders.” There is nothing wrong with using them; they are examples of using information to help you as opposed to dependence and lack of ability. I need and use all the help I can get. It's the intelligent thing to do.

Memory Extenders

Post-it Notes—the best invention since sliced bread. They stick to just about any surface: car dashboards or steering wheels, refrigerators, phones, mirrors, even coffee pots. Use them to catch your attention, and follow the directions.

Voice mail—This trick has saved me countless hours of stress in my overburdened schedule. I call my home from the office and my office from home and both from my cell phone. I leave myself important messages about things that must be dealt with or things to take from one place to another. It works.

To-Do Lists—Yeah, yeah, so I've been doing this for years. Good for you. A to-do list is a visual tool to focus your brain on what your tasks are for that day. Use it. It feels so good to cross things off too—provides a sense of accomplishment for the day.



Chunking—We know that to break information down into chunks of seven digits is workable for your brain. You can go plus or minus two and still be reasonably safe. Think of all the things you need to remember and see if they fit into this formula: phone number, 7 digits; zip code, 5 digits; social security number, 9 digits. The hyphens help tremendously—111-00-1234. (Think about it—how do you remember your social security number? You think about it in chunks.)

Try This Memory Test

Look at the following letters for about ten seconds. Close your eyes and see how many you can recall:

AOLUSANFLCNNNBA

How did you do? Fifteen letters is too much for your brain to handle.

Now try the same letters in ten seconds.

I'm sure you did better this time for two reasons:

- Smaller chunks to remember
- Your brain made a connection with each set of letters.

That should tell you when you are trying to remember something, chunk it and make it meaningful. For example: consider your grocery list.

milk	butter
bread	cereal
salad mix	trash bags
peppers	laundry detergent
tuna	paper towels
eggs	cat food

You can do several things to make shopping easier. Make a list is the obvious tool. But, what happens if you are at the grocery store and your list is still on the kitchen counter? If you create your list in such a way that you can remember your items, you've got it made.

Look at the grocery list above. Think about how many ways you could re-write it to make it easy to remember when your list is at home. You may even do this as an exercise to improve your memory and not take your list. See how good you are and if you get better.

Right answer #1.

You might create your list in terms of where items are located in the store. Grocery stores are set up to help you. Most grocery stores have all your essential needs around the perimeter, fruits and vegetables, dairy, meats, bakery. Up and down the aisles are the extras. So think about and see yourself walking the perimeter of your favorite store and filling your cart with what you need.

Right answer # 2

Break your list down into meals and/or categories: breakfast—five items, lunch—three items, cleaning—three items, cats—oh well, depending on how happy you want your cats to be.

Right answer #3

Whatever categories work for you.

I always get asked about remembering names. There are several right answers here too.

- Include as many senses as you can. Most often we rely on sight. Include touch (how did the person's hand feel when you shook hands?), smell (did the person smell good, neat cologne or aftershave, or bad, cigarettes, body odor?), sound (did the person's voice create a positive impression or was the voice whiney or gravely?). If you attach all these senses with your sense of sight, they are encoded in different parts of your brain and can be called into action as you remember the person's name.

- Use your sense of hearing in another way. Say the person's name aloud, "Nice to meet you, Barbara." The name is now encoded in two important areas of your brain—each concerned with speech—Broca's area and Wernicke's area. These two areas (named for the discoverers of this information) make it possible for you to assemble thoughts (Wernicke's) and then speak them (Broca's). By this simple task of speaking the name you encode it in your brain. When you speak, you also hear your voice; so the name is encoded in the temporal lobes located just above your ears.

Since we know that once a neural pathway is formed, revisiting it strengthens it, say the person's name in conversation to provide extra anchors. "So, Barbara, tell me about what you do." "Nice to meet you, Barbara. I hope our paths will cross again." (And when they do, I will remember your name.) "See you, Barbara." End your conversation with the name as an anchor.

Just a quick word about your sense of sight. Scientists now believe that sight comprises at least thirty different subcategories: size, color, shape, texture, movement, tones. So when you meet a new person, train your brain to gather as much sight information (tall/short/ heavy/slim, hair color/length, athletic looking/couch potato). Color and texture of clothing help if you want to remember for the same day or if you can tack it to "She looks really good in blue; it brings out the color of her eyes."

How can I possibly do this you ask? Not a problem, your brain has already gathered all this information and much more unconsciously. Your job is to train your brain to hold on to this information by consciously focusing on it.

Use sight in another way. Visualize the person's name. I often see someone wearing a large name tag across his or her chest in bright purple (choose your favorite color). One of my students says she writes the person's name across her or his forehead in her imagination.

- You can use the power of emotion to remember a name. Sometimes people affect you immediately with a feeling of like or dislike. We are often at a loss to determine why this happens; it just does. Scientists believe that there is something about this person that triggers a response in your unconscious mind that recalls pleasant (grandma's cuddling) or unpleasant (teacher who punished with sarcasm) memories. Use emotion in remembering; attach a feeling to this person.
- Play a name game. At the beginning of a new class, I ask people to introduce themselves by using an adjective that begins with the same letter as their name. I am Busy Barbara. This gives your brain an additional link. Be careful of the adjective you use as it tends to stick. I had a man in my class who will forever be known in my mind as Forgetful Frank (and he was forgetful). If this is not a “name game” situation, do it yourself; attach an adjective beginning with the same letter as the name as a memory link.
- Ask questions about the person and make an association. Cindy plays with kids. Cindy is the director of the day care center of my church. Douglas digs holes. My son is a civil engineer who provides large diameter holes filled with concrete to support buildings. (I do remember his name.) Associations help you remember.

There are two subcategories of memory: declarative and procedural.

Declarative Memory: This memory describes essentially what can be brought to mind or declared, cognitive memory.

Here are some of my “memory aids.” How many of these do you use? What are your favorites?

RAVEN—Remember *affect* is a verb; *effect* is a noun. (I always get these confused.)

I before E except after C (I learned this in third grade.).

Roy G. Biv (How do you remember the colors of the rainbow?)

HOMES: names of the great lakes (This helped on geography tests—not much use for it now except on *Jeopardy*.)

Thirty days hath September . . . (This one often comes in handy.)

Principa/ is your pal. (Spelling was always my downfall [still is]. I need all the help I can get.)

Every Good Boy Deserves Faith (third grade choir).

Mary's Violet Eyes Make John Stay Up Nights Permanently (the solar system to third graders I was teaching)—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto.

Writing activities: These help organize, clarify, prioritize, express.

Write dialogues, poetry, stories, eulogies, speeches, letters.

Write directions.

Anything you can declare or talk about is called your Declarative Memory.

Procedural Memory: This memory takes care of those things that you do every day: brush your teeth, walk, ride a bike, type. Imagine how chaotic life would be if you had to learn to do those things every day. Your brain takes care of it for you. Once you know how to type or to ride a bike, it is encoded in your procedural memory. You can ride a bike, even if you have not done so for many years. You may be a bit rusty, but your brain knows how to do it.

BRAIN BREAK

Write a noun for each of the following adjectives:

cuddly breathtaking

wise rugged

awesome perfect

irritable

41 Discover the Power of Music

Music can cut through the medium of words and touch your heart. While words often bring the story home, the music itself has the power to move you and set your mind spinning.

Singing or listening to music enhances brain functioning. How many of you can turn on an “oldies station” and sing the words (or most of them anyway) to a song you haven't heard for years? Most of us can.

Using singing/music as a tool for memory has incredible potential. I had a high school physics teacher in an adult lab several years ago. When we were talking about music/rhythmic intelligence, she became so excited. She told us of her love of music and how, out of her gut level of understanding music as a memory tool, she taught her high school students the physics formulas to tunes they knew. She said it worked wonderfully well. She knew instinctively what to do. This teacher did not understand why it worked; she just knew it did. She told us that during exams, students would be humming away and getting marvelous grades.

I do a fair amount of work with nursing homes and adult day care establishments. I always talk about using music, and the response I receive from the caregivers is astounding. They tell me wonderful stories about their clients who will sing with the radio, CD's, or tapes of music, particularly music of their youth. I hear stories of clients who can barely speak but who will sing. With the use of music the caregivers cite less confusion, more lucidity, and lessened recovery time from illness. Many of the clients return to their favorite old hymns like “Rock of Ages,” “The Old Rugged Cross,” “In the Garden.”

My husband and I (along with several hundred others) attended a funeral for an African American pastor/friend/colleague this past year. Many of the stories told about Carol had to do with music. Carol's wish was for her closest friends to be present during her final hours. They reported that Carol would whisper hymn titles and her friends “sang her into heaven.” Music was an important part of Carol's ministry. What more fitting way to leave this world and to enter the next than on the wings of song?

Think of different kinds of music and the emotional power of each.

- *Religious music* can create a feeling of awe, of praise, of quiet. Handel's *Messiah* has stirred people's hearts for centuries, and tradition dictates that we stand during the “Hallelujah Chorus.” Beethoven's “Hymn to Joy” evokes thoughts and images of the masterful work of God's creation. The musicals *Jesus Christ Superstar* and *Godspell* have brought biblical stories to mass media through music. Even the “Veggie Tales” series for children (and adults) teaches godly messages through silly songs. I often sing,

“God Is Bigger Than the Boogie Man” as I go about my work. Even though I am “musically challenged,” I can teach any Bible story to the tune of “Jesus Loves Me.” This is powerful stuff.

- *60's music*—Elvis and the Beatles changed the shape and sound of music forever with their outrageous new songs. Peter, Paul, and Mary and the Kingston Trio brought us through peace rallies and stands against injustice. Music was a powerful force in the 60's. An entire generation grew up with this music. The baby boomers are now pushing the limits of “graying America.” If you want to excite a first-wave boomer, flip on a retro station that specializes in music from the 60's, 70's, or 80's. They are transported to their days of jeans and tee shirts, of tie-dye and cutoffs; and they remember the songs that carried them through high school and college. These are the songs they danced to and dated to and often married to. Play this music, and watch what happens to them.

- *Patriotic and military music* has been known to stimulate fierce feelings of loyalty and pride in country. Hearing and singing songs of country fill the hearts of soldiers around the world and unite them in a feeling of pride.

- Chanting and hard rhythms incite military personnel to fight. My brother graduated from the Marine facility at Parris Island before being shipped to Vietnam. I can still see the young recruits running around a field, with fifty-pound backpacks, chanting anti-Viet Cong slogans. This was psychologically preparing them to go into battle and commit acts they would not consider in normal times.

- Music during wartime has other effects as well. A famous and wonderful story tells of World War I soldiers in their trenches, Germans and Allies, rallying together on Christmas Eve by singing “Silent Night” in both English and German. For a short time, the war was forgotten; and their hearts and minds were united in song.

- *Music to fall in love by*—Music can set a mood and create an atmosphere of romance. Many married couples can remember “their song” as an important part of their courtship and relationship. Think now of songs that bring you back to dating and/or marriage. What happens to your body and mind as you recall these special songs?

Music as a memory tool is both effective and fun. In my classes in mental aerobics, I have my students memorize a prepared grocery list as an assignment. We try this using several different methods. One of the most powerful ways is to create a song incorporating your list. This method makes

your brain work in several ways. You must organize your list, think of a tune, create links to fit your tune, practice singing your tune, and use it as a checklist to see that you have purchased everything on your list. This is indeed mental aerobics. You are putting your brain to work, and it pays off. You can use this same technique to recall where you parked your car, complete a to-do list, and a host of other memory chores. (Look at pages 88–94 for more memory aids.) My students love it and report that it works.

Eleven Things We Know About the Power of Music

1. Higher-pitched music promotes a more positive effect.
2. Slower music promotes the cortical and limbic areas of the brain.
3. Faster music promotes more positive moods.
4. Music can induce “mob psychology.”
5. Music alters the brain from ordinary states; it transports you to other places and times.
6. Singing a lullaby has been known for centuries to induce the sleep rhythms.
7. Music that gradually slows in tempo has a calming effect.
8. Music is the universal language. No words are necessary to convey meaning.
9. Instrumental music is better for background music than songs with lyrics.
10. Music is being used in pain moderation.
11. Music therapy is being used in work with disturbed people of all ages.

42 Do Something Different Each Day

Your brain thrives on novelty. One of the neatest things to come down the pike is the science of neurobics. Formulated by Dr. Lawrence C. Katz and Manning Rubin (*Keep Your Brain Alive*, see Bibliography), these brain exercises go beyond doing puzzles and solving riddles. This science is based on the use of all your senses but in different and unique ways. Since we know information is

gathered through our senses, this twist on using senses gives your brain a good mental workout.

Neurobics suggests doing normal things in an abnormal way to wake up your brain's processing mechanisms. Some examples to consider:

- Use your nondominant hand to eat, write, brush your teeth (not as easy as it sounds).
- Read a paragraph upside down.
- Take another route to work.
- Navigate a room with your eyes closed.
- Keep change in your car's cup holder; at stop lights determine denominations of coins without looking. You can do this with paper clips, safety pins, screws.
- Eat a meal in reverse order—dessert first.
- Shower with your eyes closed.
- Sit in a different place at the dinner table (or in church).
- Read a magazine from a totally new field.
- Rearrange a room or office.
- Read elevator numbers in Braille.

Since discovering neurobics, I have been using these techniques myself and teaching them in my mental aerobics classes. A woman in my last class said she created quite a stir as she was explaining to dinner partners about the class and read the menu upside down.

I take notes in meetings with my left (nondominant) hand, writing only important dates and items with my right hand). It is fun and a brain workout. I brush my teeth every morning with my left hand. It is not as easy as it sounds. But doing it every day, I am training my brain and my muscles to work differently.

Try some or all of these neurobic exercises for fun and for your brain's fitness. You do not have to do them all every day; but the more you do, the more fit your brain will become.

BRAIN BREAK

Name the fifty states. Use whatever process works for you. The two most popular ways to organize this task (should you choose to undertake it) are alphabetically or geographically. Good luck!

43 See the Glass Half Full

Stop reading and think of five (or seven or ten) reasons why you love the age you are.

If you cannot think of five reasons you love your present age, whatever age that may be, you are in serious need of an attitude adjustment. Everyone has choices about how he or she lives every day. The choices we make often depend on our attitude. You can adopt an attitude of optimism or pessimism. You can see the glass (your life) as half full or half empty.

An old song says, “You need to accentuate the positive, eliminate the negative.” You create your world through thoughts, be they optimistic or pessimistic. Your brain listens.

Your brain responds to your optimism or pessimism. I am so tired of the excuse, “. . . but I don't have the time.” Everyone has the same twenty-four hours every day. What you do with that time is about the choices you make. Some of the choices you make are based on “self-talk”—“I'm not very smart” or “I know I'd never get that job; why apply?” or “I'm a wonderful person; I can do anything with God's help” or “I claim my gifts and use them in the best way I can.” Both these types of examples affect your brain. If you continually give yourself negative, pessimistic messages, your brain responds to them as truth. If you constantly reinforce your positive side, your brain responds accordingly.

Several years ago, I was teaching a course on creative and critical thinking to a group of young executives in a major pharmaceutical company. As I was about to begin my third session, one of the vice presidents asked me if she could make an announcement before I began my class. She proceeded to inform these folks that the company had just lost a major client and most of their jobs would be terminated in six months. I was supposed to follow that with a session on creativity. Right! I had to think fast.

I invited the distraught students to stand, and I set my timer for sixty seconds. I instructed them to indulge in sixty seconds of “creative whining” out loud, in their best whining voices. They looked at me as if I were crazy. I insisted they participate. One or two of the braver souls began and soon all of them were

whining wonderfully. Very soon they began to see the absurdity of the situation and started to laugh. At the end of sixty seconds, I asked them to sit; and we looked at the positive and potential outcomes that lay ahead of them. I took lemons and made lemonade. I would like to examine that scenario in light of positive thinking:

- I began where they were—seeing nothing but a huge negative. There was absolutely no way they were willing to listen to anything positive at that moment. They had to wade through the negative thoughts and feelings first before we could begin to look at the positive aspects. By using creative whining, they got out those negative thoughts in an absurd way to be sure; but they expressed out loud their fears and frustrations.
- I used humor as a powerful tool. I instructed them in an activity that began as “Ain’t it awful” and soon turned into an exaggerated absurdity. They were able to laugh.
- They were ready to look ahead only after they had cried and laughed. I guided them toward looking at the situation as a period of growth and training.
- I helped them see this as an opportunity. As they began to process the information in a different way, they began to see the creative possibilities and to look at the situation in the form of challenges rather than insurmountable problems.
- They began to think rather than simply react. They were able to step back and look objectively at the situation and become proactive, rather than reactive.
- They began to see this as six months of continued training that would benefit them beyond this employment.
- They began to realize that this was a unique opportunity to take some risks, to experiment and try new things. They would learn from any failures.
- The management encouraged them and promised to help with creating resumes and providing networking opportunities.
- They learned to take responsibility for their own actions. Many of them took full advantage of everything this company offered and went on to relocate in the pharmaceutical field as trained and empowered employees.

The next time you feel negative and powerless think of this story and

- acknowledge negative, knee-jerk thinking (pretending it doesn't exist is not helpful);
- kick into absurdity by practicing creative whining;
- laugh;
- refocus on the positive;
- see life as filled with opportunities;
- become proactive—think, don't simply react;
- take responsibility for your actions.

This was indeed a unique opportunity. Not all problems can be solved in this way, but the basic tenets for training yourself to look at the world through the lens of optimism rather than pessimism are there. Train yourself to be an optimist, and your brain will make it happen.

BRAIN BREAK

Make as many words as you can out of the word *grandparents*. You may only use the letters the number of times they appear in the word. You may rearrange them in any ways you choose. Aim for 99. I found 95.

44 Organize

One of our biggest problems today is too many things going on at once. If you add another layer of chaos to that in the form of clutter, you are asking for trouble. My desk is laughingly known as the “black hole.” It would help me a great deal to get organized. Actually, I can find anything on my desk—no one else has a clue as to where to begin to look. Each time I do get my desk organized (and occasionally I do), it looks wonderful for about ten minutes or until I am again working on six projects at once.

My home is organized, except for my desk. I need an extra room built onto our home where I could keep my desk out of sight. So, on this one, trust me; and do what you can do to eliminate chaos. I envy (sort of) my friend Cindy who has everything filed away in such neat order. Often when I cannot find something, I

go to her, because I know I have given her a copy and the information will be filed away somewhere logical and can be retrieved immediately.

So, my advice if you cannot get organized is to enlist the help of a friend who is.

This is also a control issue. Sometimes your world is so full of chaos, your brain needs to feel in control of something, anything. Keeping a neat organized area (desktop or countertop works) is one way of doing that.

45 **Pray and Meditate**

My mother always said, “God does not change when you pray, but you do.” Her saying is true and fits this book well.

According to recent studies, parts of your brain “go dark” when you pray. What this means in lay terms is that the parts of your brain that deal with the cognitive processes, mostly in your frontal lobes, give way as you become calm, quiet, and meditative. It is as if you are pushing the “off switch” to the hectic world around you and focusing on your inner self.

Prayer and meditation are good for your brain and your body. Prayer offers a calming effect that slows heart rate, calms the mind, and allows breathing to slow.

In my experience people fall into one of two categories about prayer:

1. I don't know how to pray, and I feel self-conscious, or
2. I know how to pray; you don't have to tell me.

The following suggestions are for the folks in category 1.

First and foremost: *There is no right or wrong way to pray.* Prayer is an intimate discourse between you and God. There are no right or wrong places to pray or things to pray about. There are several kinds of prayer including, but not limited to, memorized prayer (such as the Lord's Prayer); written prayers as part of worship; ritual prayers for beginning or ending the day and before meals; and prayers of anguish, of blessing, of concern, of asking, of simply talking with God. There are probably a hundred other kinds of prayer. The possibilities are endless. Let me present some guides to prayer and encourage you to make prayer (or to continue it as) a part of your daily life for both your spiritual and your mental well-being.

Nine Suggestions as a Guide to Prayer Power

1. Prepare for prayer

Find a quiet place where you will not be interrupted for at least ten to fifteen minutes. Try reading a psalm to get your mind ready for prayer. The following are some that speak to me: Psalms 8; 23; 46; 84; 90; 103; 121; 130; 139. Begin with these and/or find other psalms or Scripture passages that speak to you. Read slowly. Read aloud. Read several times with quiet space between readings to focus on what the Scripture is saying to you at that moment.

2. Give thanks

Close your eyes. Focus on you. Feel yourself in God's presence. Feel the loving warmth of God surround you. This is your special time with God. Tell yourself it is OK to focus on you. Thank God for blessing you. Focus on three ways God has blessed you. Claim those blessings, and ask God to help you use those blessings to spread God's word either by doing or being. Consider yourself blessed to be a blessing.

3. Express love

Tell God of your adoration. It is a wonderful gift to give. Tell God how and why you consider God awesome. It is not just a good idea; it is a commandment in both Old and New Testaments. In the Shema (Deuteronomy 6:5), the Hebrew people are told, "You shall love the LORD your God with all your heart, and with all your soul, and with all your might." A similar command appears in the New Testament. When Jesus is asked by the Pharisees which is the greatest commandment, he replies, "You shall love the Lord your God with all your heart, and with all your soul, and with all your mind" (Matthew 22:37).

4. Ask forgiveness

Ask God to forgive you for any wrong you might have done, consciously or unconsciously. Claim that forgiveness. Feel your burden lifted and your heart renewed. Then ask God to give you the strength to forgive others as God forgives you. Again, Scripture informs us in Matthew 5:23-24 that we must be reconciled with those we have offended or who have offended us before we can come to worship God fully.

5. Ask for insights or discernment

Ask God for insights into how you can best deal with personal problems. Do not ask God to "fix it"; rather, ask God to help you deal with this problem in a loving and Christlike way.

6. Ask for help with difficult people

Ask God to bless one person that you find hard to like. This is more difficult than asking for blessings on friends. It stretches you and exposes your vulnerability, but it is based on Scripture. Jesus tells us to love our enemies and to pray for those who persecute us (Matthew 5:44).

7. Ask for help as you reach out as God's hands

Ask God to help you become aware of the needs of one person that you can touch by sharing God's love. It may be by making a simple phone call, sending a card or note, or giving a hug. It may be providing a bag of food or bringing warm clothing to a shelter or knitting mittens for cold hands. Legend has it that Saint Francis of Assisi once said, "Watch your behavior. You may be the only Bible some people ever read." Consider how you may be a "Bible" to someone today by using your blessings.

8. Ask for help for others

Ask God to help three other people who you feel need God's presence today. Perhaps you know of persons who are ill, are having particular problems, or are lonely. Ask God to open their hearts to feel God's presence in special and helpful ways. Ask God to open their hearts and minds to receive God's presence and be guided by it.

9. Be still

"Be still, and know that I am God" (Psalm 46:10). This is an important part of prayer. Often we think prayer is a laundry list of wants and needs with no time to listen to God's word for us. Allow a few minutes in the middle of and/or at the end of your prayer time to be silent and listen. Chances are you may not hear God telling you to do specific things, but the sense of inner peace and calm can prepare you to look at your day differently and sort out your priorities in a Christ-centered way. Listen for God's "still small voice" (1 Kings 19:12, King James Version).

A wonderful story tells about a bishop who was met by her secretary with a two-page list of things she had scheduled for the day. Her secretary asked where she was going. The bishop's reply was, "I'm going to the chapel to pray for an hour." The secretary asked how she could think of taking an hour when she had such a full schedule. The bishop's reply was, "That is exactly why I am going to pray."

Prayer is not something we squeeze in when time allows. We need to make time to pray and honor that time. If nine steps seem a bit long and you have to try too hard to focus, a simple anagram works: ACTS.

- A—adoration (praising and glorifying God)

- C—confession (telling God you are sorry AND making the changes in your life)
- T—thanksgiving (expressing thanks generally and specifically for all God does in your life)
- S—supplication (asking for help for self and others)

Or use alliteration: Pray the A's.

- Awareness—be honest with yourself and God. What issues are you dealing with that you need to name and give to God?
- Affirmation—everyone needs praise, even God. Go to the psalms for examples of praising God. Think of ways you can praise.
- Assertiveness—ask for what you need. Jesus said, “Ask, and it will be given you; search, and you will find; knock, and the door will be opened for you” (Matthew 7:7).
- Acceptance—ask God to help you accept what cannot be changed and for the courage to deal with it.

Two examples of prayer will help you to see what this is about. Use the guide under activity "45 Pray and Meditate" to help you create your own personal prayer based on the A's.

Your brain likes and seeks patterns. If this tool helps you to create a pattern for prayer, go for it and feel God's presence in your life.

Concept--
Awareness

Lord's Prayer--
Our Father, in heaven.

Serenity Prayer--
... the wisdom to know the difference

Personal Prayer--
Problem/concern you are dealing with.

Blessings/graces that surround your.

Concept--
Affirmations

Lord's Prayer--

Hallowed be Thy name. . . . Thine is the kingdom, the power, and the glory forever

Serenity Prayer--**Personal Prayer--**

How do you/can you praise God?

How do you/can you offer thanks to God for all of God's gifts to you?

Concept--

Assertiveness

Lord's Prayer--

Give us this day our daily bread. . . . Forgive us our trespasses. . . .
Lead us not into temptation. . . . Deliver us from evil.

Serenity Prayer--

Grant me the courage to change the things I can.

Personal Prayer--

Ask God for what you want/need.

Concept--

Acceptance

Lord's Prayer--

Thy will be done on earth as it is in heaven.

Serenity Prayer--

. . . the serenity to accept the things I cannot change.

Personal Prayer--

Where in your life do you need to let go and let God?

BRAIN BREAK

The magic number 7

The answer to your number brain break will be 7 (if your math is good).

- Write any number from 1 to 200.

- Add 9.
- Double the new number.
- Subtract 4.
- Divide your answer by 2.
- Subtract the original number you selected.
- Your answer is 7! It's magic.

46 Practice

I can still hear my mother saying, “If you want to play Beethoven, you have to practice the scales.”

If you want to keep your brain fit, you have to practice the activities. It does not just happen. The neural pathways have to be established, enhanced, and enriched to be efficient. Doing a puzzle or walking a mile once in a while is not going to change much. Brain fitness means behavior modification. It means lifestyle change. It means discipline. It means practice. You must make a decision and then act on it. You must dedicate time each day to practice activities to enhance brain fitness. I take my thirty-minute walk as part of my workday. I cut my “lunch hour” to thirty minutes and tell people my thirty-minute walk is the most important thing I do for me and my ministry every day. Practice!

47 Solve Problems

Your brain's job is to create meaning. Your brain thrives on challenge. Your brain loves to solve problems. As part of my master's degree, I was trained in creative problem solving. I learned and now incorporate many of these tools in my daily living. I have combined the processes I use in problem solving with my work in multiple intelligences and come up with the process on pages 112–113 to incorporate all intelligences in solving a problem.

This exercise is a visual way to sort through decisions. It forces your brain to consider several sides of the decision. It helps your brain to think in a positive framework.

A Comparative Look at Functions of Your Brain

Intelligence

Verbal/Linguistic
reading/writing
speaking/listening

Logical/Mathematical
patterns/sequence
problem solving,
dealing with numbers

Visual/Spatial
visual imprints
spatial relationships

Body/Kinesthetic
moving/using your
body

Musical/Rhythmic
dealing with singing
tempo/pitch/rhythm

Intrapersonal
going within to
make neural
connections

Interpersonal
synergy lives/

Brain Research

Each time stories are told your neural connections become stronger. When you write, your brain imprints in several ways.

Your brain seeks to make meaning. When you list, organize, prioritize your thoughts, it helps your brain to make meaning and connections.

Visual stimulation activates occipital lobe of the brain and calls several areas into use.

Using your body to process information helps the brain draw from the motor cortex.

Music taps into the auditory cortex and other of the issue. language areas of your brain.

Reflection and introspection encourage the brain to pull from and strengthen areas of your brain to make connections.

Telling your story and listening to others'

Creative Problem Solving

List five issues you are dealing with. Select one issue to continue your focus. Write a paragraph about your issue. Use as much detail as you can.

Create a list of all the things that led up to today's issue. Put these items in a logical order of the sequences that led to today's issue.

Draw a picture (literal or metaphorical) of your issue. Include as many details as you can think of.

Stand up and practice the Infinity Walk while thinking about your issue.

Tap out a rhythm that addresses your Think of, create, or write words to a familiar song about your issue.

Take a full three minutes to reflect on the issue you are dealing with. Feel any emotions connected with your issue.

Take two minutes and share your issue with a partner.

together we are
better than anyone
alone

reflections on it help the
brain pull from two
language (Broca's and
Wernicke's) areas for a
different perspective.

Say only what is comfortable.
Partner listens and then
responds with what he/she
hears. Switch places.

Barbara Bruce

process: CREATIVITY

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48 Create Patterns to Help Your Brain Remember

Your brain loves to create patterns. If you can think through your daily tasks and create rhyme and reason in a logical pattern, your brain will flourish. Create your shopping list according to meals or to the design of the store. Create anagrams to remember things—ACTS for the different categories of prayer. (See Number 40 for other anagrams.)

49 Ask Questions

A poster in a meeting room during my master's program said, "Einstein was once asked what he would do if he had one hour to save the world. His response was, "I'd spend the first 55 minutes figuring out what the problem was (asking questions) and 5 minutes coming up with a solution." Einstein knew only too well the value of asking questions, and we were being trained to do the same.

Your brain is designed to create meaning. That is its job. That is what your brain thrives on. You can help keep your brain working at optimum level by asking questions that help you create meaning for your world and for your life.

Out of my years of graduate work in creative studies, I learned the value of asking questions in problem solving. The more questions I asked, the clearer the problem became and thus the more readily solvable. One technique was called "massaging the problem." Consider this example:

Problem: *How might I find more time to exercise?*

The massaging goes like this:

Why do you want to find more time to exercise?

So that I can be more fit
Why do you want to be more fit?

So that I can retain my health
at optimum levels.
Why do you want to retain
your health at optimum levels?

So that I can continue to teach
and learn for the rest of my life.
Why do you want to continue to teach and
learn for the rest of your life?

So that I can do all I know to keep
from losing brain functions as I age.
Why do you want to keep from losing
brain functions as you age?

So that I can retain my capacity
and dignity until I die.

The problem seemed difficult at first. I am busy, with schedules to meet and “to-do” lists to adhere to. I felt guilty about carving out thirty minutes on treadmill or bike or taking time to walk with a friend. Now that I have massaged my problem, I can easily place exercising at a higher place on my priority list without guilt—I am creating a life insurance policy with time being the legal tender. If indeed I want to continue being a productive person, I will MAKE time to exercise and count it as a blessing.

I have discovered as I work with adults, that often the world becomes too much to handle. We are all dealing with too much to do, brain overload. So, I force myself to take time each day to answer one of life's little questions. I have created a sample list of twenty-one questions. Try answering one of these questions each day for three weeks. Attempt to answer in fewer than thirty-seven words, but make sure you cover the territory. One-word answers do not help much. If your answer creates another question, take a detour and answer it. Make a cup of tea, sit alone or with a friend, and go for it. There is no right or wrong way to answer the questions— journal, talk with a close friend, think. The questions will help you find clarity and meaning about who and Whose you are. This is your life.

1. What would you like to have more time for? Why?
2. What would you like to have more money for? Why?
3. What do you wish would happen in your life? Why?

4. What would you like to be able to do better? Why?
5. What else would you like to get out of life? Why?
6. What has made you angry recently? Why?
7. What makes you tense or anxious? Why?
8. What would you like to do with the rest of your life? Why?
9. Whom would you like to improve your relationship with? Why?
10. What misunderstandings have you had recently? Why?
11. What have you complained about recently? Why?
12. What wears you out? Why?
13. What energizes you? Why?
14. What would you like others to do? Why?
15. What takes too long? Why?
16. What is wasted? Why?
17. What is too complicated? Why?
18. What would you like to organize better in your life? Why?
19. What makes you inefficient? Why?
20. What are you really good at? Why?
21. How do you celebrate? Why?

Check in with yourself at the end of three weeks of answering a question each day. How do you feel? Do these questions beg other questions? Did the questions bring some clarity to who you are and why you function as you do? Do you notice any patterns? What changes can you make to accentuate the positive and eliminate the negative aspects of your life? How can you continue this process of examining your life in nonthreatening and brain-healthy ways?

BRAIN BREAK

Stand and place both arms out straight in front of you. With both hands moving simultaneously, doodle in the air. Keep this up for at least forty-five seconds. You will incorporate both brain hemispheres.

50 **Answer Some More Questions**

- Once world peace and hunger are handled, what's next?
- If you had the attention of 10 million people for one minute, what specifically would you do?
- What is the difference between a ditch digger and a ground breaker?
- If you could only ask yourself one question for the rest of your life, what would it be?
- If you were to summarize your unique gifts in three words, what would they be?
- How are you breathing right now?
- And the most important question of all: Who loves you?

51 **Reduce Stress**

Unless you are living in a cave in some remote area of Tibet, you deal with stress every day. Consider the following scenario:

It's Monday morning, your alarm goes off, and you jump out of bed, race through your shower, fix breakfast and lunch for the kids, drink the milk out of their cereal bowls as you gather the clothes to take to the dry cleaner on your way to work. Your secretary calls in sick and your partner has the flu, so you have to make a presentation on your own. The copy machine is down, and you run to the copy store and stand in line behind a man who is copying his Christmas letter to 327 of his closest friends. You get back and slide into the conference room just as people are gathering for the presentation—and the bulb is out on the projector.

If even one-tenth of this day hits home or if your scenario differs in specifics but not generalities, then you know about STRESS.

Stress does not always happen immediately; often it builds gradually. Where do you feel stress? In the managing change and conflict course I taught for five years, I asked students to write on Post-it notes (don't you just love them!) where they felt stress. I asked for a volunteer to be our human display. One by one students came up and placed their Post-it notes on our model. This person was covered in bright-colored Post-its. They seemed to gather in clusters around neck, shoulders, stomach, back, eyes. The point is: YOU know the first physical signs of your stress. That is the time to deal with it.

This stress-filled world we live in is exemplified by the increasing numbers of advertisements for products like tranquilizers, herbs, and stomach acid neutralizers to ease the effects of stress. These medications are band-aids and do not get to the root of the problem, however. Your brain only knows it is under stress, and your body continues to produce the neuro-transmitter called cortisol, which is in the long term deadly.

This list names some of the more common symptoms of stress:

Anxiety	Muscle	Quick/shallow
Depression	tension	breathing
Fatigue	Excessive	Increased
Headaches	worry	(causeless) aches/
Irritability/	Negative	pains
anger	thinking	Difficulty
Restlessness	Increased	concentrating
Confusion	mistakes	Increased use
	Overreaction	of alcohol/
	Changes in	drugs
	sleeping/	Decreased
	eating	sense of
	patterns	humor

Experiencing one or more of these symptoms on an irregular or cause/effect basis is not a reason to be concerned. If you have been raking leaves or shoveling snow, you are bound to have increased aches and pains and perhaps some muscle tension. If you begin to notice any of these common symptoms on a regular basis, with no apparent/obvious cause, however, think stress.

How can you combat stress that is a physical and physiological disaster? Short of spending three weeks in Hawaii or months in a psychologist's office you can:

- *Take time to breathe.* We know that one of the best ways to relax is through deep breathing. Often it is called “yoga breathing”: Take a long, deep abdominal breath through your nose to the count of four. Abdominal breath is when you can feel your abdomen rise as

you inhale. Then exhale through your mouth to the count of eight and feel your abdomen sink into your spine. Sit as you do this breathing, unless you can lie down, which is even better. A full five minutes of this yoga breathing will calm your body and mind and bring new oxygen to your brain.

- *Take mini breaks during the day.* Close your door, put on some calming music (or not), close your eyes, and put your head down. Five minutes three or four times a day for these mini breaks can be a huge help.
- *Take time to stretch.* When you begin to feel muscles tense, stand up and stretch up to the ceiling, then as far to the right as you can, then down to the floor, then as far to the left as you can. Think of stretching around the clock.
- *Take a quick walk.* Walk to deliver a message instead of calling the next office. Walk to get the mail or just around the block. Walk the dog—borrow one from a neighbor to walk if no dogs reside with you.
- *Buy yourself a gift.* Almost every grocery store sells cut flowers. It is very affordable to have fresh flowers in your home. What a delight. Perhaps you would like a new CD, the latest video, or a cup of cappuccino. Indulge in small gifts to yourself. You are worth it.
- *Massage.* If you are fortunate enough to be able to have a professional massage frequently, I am envious. I try to go once a month; I give up purchasing nonessentials—like new clothes—to do this. If you cannot go for a professional massage, you can do some of your own:
 - Put your hands on your shoulders; work upward and outward as you knead tense muscles.
 - Bend your left hand back as far as is comfortable, then with the thumb of your right hand, massage your left palm in a circular motion. Reverse hands.
 - Slather some lotion on your hands and gently massage each hand with the other hand. Work on each finger individually, then your palm and wrist, then up to your elbow.
 - Massage your feet using a similar pattern to your hands.

- *Take a mini vacation.* Close your door. Close your eyes and picture yourself in your favorite place in the world. Incorporate all your senses as you experience this special place. For me it is walking on a beach. Because this experience has been part of my life since childhood, I can feel the sand under my feet, smell the pungent salt water, hear the roar of the waves as they crash onto the beach, see the enormity of the ocean where tankers appear as toy boats on the horizon, taste the salt air as the breeze delivers microscopic salt specks to my whole body. Your brain remembers.

If you could be hooked up to a biofeedback machine, you would be able to see the effect on your blood pressure, the release of chemicals in your body, your temperature, and your eye movement. All these physiological aspects of who you are calm when your brain tells your body to slow down.

Stress is often a feeling triggered by others. What I learned in my graduate work is that what annoys us, what triggers stress in us may be a mirror image of ourselves. The technical name for it is “mirroring.” We see in others what we dislike in ourselves. Perhaps it stems from a need for control. Perhaps it is your insecurities, your impatience, your quickness to anger, your wanting to have your own way that causes this form of stress in you.

Look for patterns. Once you can identify why you are stressed, think about yourself. Are you engaged in mirroring? Again, recognition and self-awareness can help you control your stress. Catch it immediately.

Try this exercise: The next time you feel yourself getting annoyed or stressed with someone, count to ten backward, breathing deeply with each number. It works!

BRAIN BREAK

Record as many items as you can that can be found in a kitchen.
Try for 101.

52 Reflect Often

One of the things we know from educational brain research is that your brain can take in only so much information at one time. In order to retain that information, you must call time out and reflect. In education this is a critical factor in learning content. The carryover to daily life makes sense. If you do not reflect often, you will discover that you reach the end of your day and do not remember much of any significance.

Reflection time during the day does not happen unless you specifically write it in. Plan for a mid-morning tea/coffee break. Think about your day thus far. What have you accomplished? Do you need to make some adjustments in your schedule? Try this again at noon and again in the evening. Think about your day. Has it been productive? Have you had time to do what you wanted or planned to do? Have you learned something new? made a difference in someone's day? accomplished something?

Reflection helps keep your brain on track.

53 Practice Repetition

Your brain needs repetition to encode items in memory. Think of the last time you looked up a phone number to call a person you barely know and will probably never call again. Once you punched in the number, could you remember it? Probably not. Now think of a phone number of a friend or colleague whom you call all the time. Can you remember that number? Most likely. I can remember the number of a friend I have been calling for over twenty years. She has not moved, her number is still the same, and I can call it at will, because . . . I've been calling her for a long time.

If you need to remember a name, a number, an address, say it several times in your head and aloud if possible. Use it in a sentence. Repeat it again and again. Repetition!

Think of how you learned the multiplication tables. Repetition. Think of how you know the way to get from your home to work. Repetition. When you need to remember something, repeat it over and over again. The neural pathways are strengthened each time you use them.

54 Reinforce

For a memory boost, reinforce your learning in several ways. Use as many intelligences as you can; repeat the learning silently and aloud; write it, sing it, draw it, say it to someone else. Reinforce, and you will have a better chance of encoding it in your brain.

55 Remap Your Brain

You can take steps to make changes in your brain, to help it to function better. Essentially that's what this book is about. How does that happen? You might be thinking, right, you can't expect me to do all these things at once. Absolutely correct. Here are some helpful hints to raise your awareness about remapping your brain:

- *Contemplation*—You bought this book and have read all the way to Number 55. You have some interest. You want to know more about keeping your brain fit. That's a good place to begin.
- *Motivation*—You have to want to do it. There are two kinds of motivation: intrinsic (from within) and extrinsic (from without). Intrinsic is the longer lasting and more powerful. Years ago I smoked cigarettes. Not many, but I still smoked. Media told me it was bad for my health. My daughter used me as a science project, and her folder had a tombstone with my name on it as the cover. Friends advised me not to smoke. All extrinsic motivators. I still smoked. During a routine physical exam, because he knew I smoked, my doctor had me do a pulmonary function test. I asked what the “little blip” on the test paper meant. His reply was, “It means you've had your last cigarette.” I now had plenty of intrinsic motivation. I stopped smoking well over a decade ago. Praise God!
- The same is true of keeping your brain fit. You can read all the reports, catch the media play on the brain, study the statistics; but until something pulls you, it is all extrinsic motivation. Something needs to kick you into high gear. For me, it was my father's progressive dementia. I knew I needed to do something to prevent me from going down that same path. I knew I had to begin immediately. Up until then, it was research and fascination with how the brain functions in learning. Now, it is a matter of self-protection. Different motivation.
- *Preparation*—The next step is not just reading this book to the end but beginning to figure out what you can do on a daily basis to remap your brain. You obviously cannot begin by doing everything suggested here. Think about your lifestyle. Decide what steps you can take to make small changes each day. Start slowly. Chances are if you jump in with both feet and make ninety-seven changes all at once, you will come to a screeching halt very soon and revert to your old habits.
- *Struggle*—We are creatures of habit. (See Number 17.) When you make a change in your behavior, it feels strange, uncomfortable, frustrating, and a host of other adjectives. Knowing this is normal

helps you deal with it. Expect that it will take some time to become readjusted.

- *Repetition*—You must stick to your plan and do it every day. It is lifestyle change. You can get to love your tofu! You can live without the extra large order of fries! You can take a walk! You can read instead of watching television. You can do it. And do it. And do it.

- *Continuation*—One of the most important lessons I learned while taking part in a national weight-loss program is to stay the course. If you slip one day, don't give up; get back on track and keep going. Some days you just will not feel like doing anything good for your brain. So, give in. Then, get right back on track. Remember the age-old advice you were given when you were learning to ride a bicycle? When you fall, get right back on and keep trying. Still good advice.

Remapping your brain does not happen overnight. You have years of habits to rearrange. Just keep in mind the benefits, smile, and know that in the long run you will be far better off.

56 Use Your Senses to Gather and Store Information

How many senses do you have?" I asked this question in a mental aerobics class. Most of the students responded five. Some said six. What is your answer? Read on to discover some fascinating facts about your senses.

While it is true that you have five major senses (some count a sixth as intuition or gut instinct, known euphemistically as your sixth sense), each of your senses is broken down into many sub-senses. In reality, your brain learns through many, many sensory messages. Your cerebral cortex is the area of your brain that interprets your senses. This is further broken down by specific "jobs" within the cortex. Your memories are stored in all your senses. Think about it.

Sight

Sight is primarily the job of the occipital lobe of the visual cortex, located in the back lower areas of your brain. Remember when you thought your mother could see what you were doing behind her back? She probably told you it was because she had eyes in the back of her head. (A fun way to remember where sight is housed in your brain.) Can you close your eyes and conjure up an image of your grandmother, or a walk along a mountain path, or the face of someone you love? Practice closing your eyes and remembering.

Your visual cortex is broken into many areas, each processing a different aspect of sight. Consider what you see: color, size, texture, movement, depth, position. Amazing, right?

You can exercise your eyes. Practice takes just minutes and helps to stimulate your visual cortex. Holding your head still, look up - look down - look left - look right. Cover one eye and focus, cover the other eye and focus. Focus on something near - focus on something far. The last time I had an eye exam, I asked my optometrist, as I was doing all these things with her shining a light into my eyes, if doing these exercises (without the light) would help keep my vision fit. She said, "Absolutely."

Lazy eights are another eye exercise I often do in training sessions. Hold your dominant hand straight out in front of you, thumb up. Create the figure eight (infinity sign) lying on its side by bringing your hand up and right, around and down, up at mid body to the left, down and around to cross at mid body and up to the right again. Be certain to follow your thumb with your eyes. Do this three times and switch hands. This exercise is good for eyes and brain.

Sound

Sound is primarily stored in your temporal lobes above your ears. Imagine the centerpiece that holds earphones on, this is the area of your temporal lobes. Sound is also very complex. What sounds can cause you to smile, cry, remember? For me, the sound of a child's laughter is about the most wonderful sound in the world and brings me back to my young children. Think about the sound of a siren or nails on a chalkboard. What images immediately pop into your mind? Think about movies like *Jaws* or *The Diary of Anne Frank*. Sound played a huge part in those and hundreds of other films because as much as anything visual, sound touched your mind and heart.

Sound is also enhanced by emotion. In training events I often do an exercise where I select a partner and we roleplay two friends meeting after a long separation. After the initial greeting, we begin to share our lives until a hot spot is mentioned. Anger is triggered. We dance around this anger until one goes into forgiveness mode, and we reconcile. All this happens within thirty seconds. The only verbal communication is through numbers! 1! - 2! - 3 - 4 - 5 - 6 - 7 and so on. It is amazing. The audience knows EXACTLY what is going on through voice (pitch, cadence) and body language. The truly amazing thing is that each time I do this exercise, my body responds as if it were really an argument and reconciliation.

Sound is so distinctive. Ask any mother of a young child if she can tell the "Mom" that is being said by her child as opposed to any other child. Ask any person if he or she can tell the real meaning of the phrase, "I just think your dress is so

darling.” Is it a compliment or sarcasm? The words are identical. The pitch, cadence, and timber of the voice make the difference.

Sounds are activated in both ears (unless there is a problem), but what you hear in your left ear goes to your right hemisphere and what you hear in your right ear goes to your left hemisphere. While the process is simultaneous, the effects are different. Your left hemisphere processes the information and meaning of the words, while your right hemisphere processes the rhythm and melody.

Smell

Smell is primarily stored in the olfactory bulbs in your frontal cortex, at the front (mostly right side) of your brain. Your sense of smell goes directly to the limbic system of your brain. This shortcut omits the trip through the amygdala. This information helps you understand why smell is such a powerful memory tool. The summer smells of salt water, suntan lotion, cotton candy, hot dogs grilling—all can immediately transport you to summers years ago. Consider the smells of Thanksgiving dinner: turkey, gravy, sweet potatoes, pumpkin pie. Did you know that much of our taste is directly related to smell? Think about a time when you have had a cold or for some reason could not smell anything. Food did not taste nearly as good.

You can train your sense of smell. Those whose living depends on a well-developed sense of smell, like wine experts or perfume experts need to have a highly developed sense of smell and be able to spot minute differences.

Smell was a key sense for primitive humans. This sense was highly developed and was often the difference between life and death. These early primates used smell to warn themselves of the presence of danger or when something was inedible. Still today, I use the “smell test” to determine if milk or other interesting items in my refrigerator are safe to eat.

Taste

The sense of taste is primarily located in the right frontal cortex. You have four primary tastes located in different parts of your tongue: bitter, salty, sour, and sweet. Taste is also a prime memory enhancer. Some researchers believe if you can identify a taste or smell with an event, it will stay in your memory longer. My students think that eating chocolate while studying and again while taking the test sounds like a neat idea.

Touch

The sense of touch is all over your body in the form of your skin, your largest organ. The sense of touch is registered in the parietal lobe of your cortex. You can tell a lot by touching something. Your sense of touch registers smooth/rough,

hard/soft, firm/puffy, fuzzy/coarse, and many more feelings. Nothing feels as smooth as a baby's skin. Nothing feels as soft as a kitten's fur. Nothing feels as reassuring as a hug. All these sensory inputs register in your brain.

Touch is also important in the sense of touching another living thing, human or animal. We know that many nursing homes and adult day care centers and hospice homes encourage the visits of pets. Human touch is critical to other humans from birth to death. Babies who are not held and stroked immediately after birth react differently to touch than those who are handled. In study after study, scientists know that touching for an infant is critical.

As you age, touch is critical as well. People respond to a touch of the hand, a hug, or a pat on the back. Nothing brings a smile as quickly as a touch. Touching registers in your brain as well. A hug is better than drugs to keep a person feeling well. The world of medicine is beginning to acknowledge the power of healing hands. (See the diagram "Information Processing Model" under activity "40 Sharpen Your Memory Daily" on how sensory memory works.)

BRAIN BREAK

Find a paper and pencil. Follow the instructions exactly:

1. Write your name in the upper right hand corner of the paper.
2. Record today's date immediately below your name.
3. Read all of the instructions before proceeding.
4. Write your name on the first line of the paper with your "other" hand.
5. Think of as many words as you can that begin with Z;—record them.
6. Write your mother's maiden name.
7. Record your height and weight.
8. Write a secret you know.
9. Turn your paper upside down and read what you have written.
10. Try to lick your elbow.
11. Pull on your left ear with your right hand three times.

12. Get up and walk the Infinity Walk.

13. Complete only numbers 1, 2, and 3 of this exercise.

57 Define Spirituality

Ask several people to define *spirituality*, and you will likely get several different answers. Spirituality is different for different people. It is considered to be a fuzzy concept, a buzz word, an indefinable thing. For me as a Christian, spirituality is how I define my connection, my relationship with God. Having said that, I know that how you achieve a spiritual relationship is a very personal thing.

Spirituality is imagination and letting go of boundaries and opening yourself up to possibilities. It is closing down the cognitive parts of your brain and letting other parts take over.

Spirituality can be enhanced by deep breathing, meditation, music, images, quiet, and sometimes symbols. It is a different state of mind, literally. We know that spirituality resides more in the right hemisphere of the brain. It is often negated by those people who insist on logic and cognition.

58 Recognize Soft Addictions

Soft addictions can rob you of precious time and eventually lead you into a mental and physical decline. What are soft addictions? This is a relatively new term that describes things you do on a daily basis, sometimes for hours. I catch myself playing my favorite computer games, Free Cell, Tai Pai, and Spider Solitaire too often. I now permit myself one game as a reward for having completed a computer task or at the beginning/end of the day.

I have a friend who developed a soft addiction to Spider Solitaire. She said she would play for an hour or more. It happens.

While playing computer games is good brain exercise, it can also be detrimental. Everything in moderation.

Other soft addictions are playing cards, doing puzzles, gardening, cleaning the car, watching television—actually anything that you spend an inordinate amount of time doing. Something that you say, “one more and I’ll quit.” And then you don’t. Most of these activities are fine and productive when done in moderation. It is only when they seem to be addictive that they rob you of time and brain power.

59 Travel

Travel is a great and exciting way to boost brain power. Travel can mean anything from three weeks in Singapore to a weekend in another state. It all depends on time and resources available.

Top Five Ways Travel Is Good for Your Brain

5. Forces you to find your way in new territory
4. Helps you meet new people
3. Breaks you out of your same routine
2. Encourages new experiences
1. Engages you in seeing, smelling, tasting, touching, and hearing something new

Traveling in the US Virgin Islands is a prime example. I was able to experience a variety of new sights, sounds, smells, tastes, and textures. Snorkeling was a wonderful and totally new experience. Breakfasting on fresh tropical fruits with a view of the Caribbean was breathtaking. Shopping and bargaining in the hustle and bustle of Charlotte Amalie added so many new experiences. Dining on turtle soup and pumpkin fritters delighted my taste buds. And last, but certainly not least, driving on the left-hand side of the road encouraged my brain to sit up and take notice very quickly.

I decided to learn some basic Spanish before traveling in Mexico. Good idea. Not only was it good for my brain, but it helped me get around and order food. It made the natives pleased and eager to help someone who made an attempt (awkward as it sometimes was) to learn their language. Spanish is a beautiful language. As is anything your brain does, it needs to be used on a regular basis (I don't.). The neurons are there, though. I went to Puerto Rico not long ago and was delighted to discover that those neurons were not gone. With a little practice I could bring it back.

Bet you never thought an exciting vacation could also be good for your brain. Try it.

BRAIN BREAK

Complete the proverb (either serious or humorous):

A stitch in time . . .

Cast your bread upon the water . . .

Don't count your chickens . . .

A bird in the hand . . .

How time flies . . .

A rolling stone . . .

All work and no play . . .

60 **Type on the Internet**

Close your eyes and place your hands where they would be on a keyboard. Think about what letters your fingers are resting on. Can you name the letters on a standard keyboard? Most people can't, but can you type? Sure you can (assuming you could type five minutes ago). Your fingers know. Typing is good for you. It gives your fingers and your brain exercise.

The Internet is to communication in the twenty-first century what movable type was to communication in the seventeenth century.

Typing on the Internet can open doors of information to you. Get onto any of the search engines available. (I use Google, but there are other good search engines.) You can make incredible discoveries. You can learn about anything, sometimes more than you need to know, on the Internet. I used it extensively to gather information for this book. My sister-in-law says she has thrown away her cookbooks. She has discovered some recipe sites that are wonderful. She checks these sites for new and appealing recipes. The sites she recommends are: *recipegoldmine.com* and *allrecipes.com*. This last site has a rating for each recipe by folk who have tried it. What a concept!

I have friends who shop on the Internet. I'm afraid I would get hooked!

I have friends who learn about gardening, crafting, cooking, buying, and selling on E-bay, even buying and selling stocks on the Internet.

I have friends who research diseases on the Internet. A word of warning; not all information on the Internet is accurate. Make sure your Web sites are put out by knowledgeable and reliable people. I have researched the Web sites that appear

in this book. They come from reliable sources and, at the time of my writing, were available and accessible. Prepare to spend lots of time.

There is a dark side to the Internet. We all are aware of SPAM and pornography sites that have created havoc with the lives of young and old alike. A word to the wise: Be careful!

BRAIN BREAK

Let go of preconceptions. Open your mind to the challenge and think about, make choices, and give explanations to the following questions:

- What color is forgiveness?
- How much does a teardrop weigh?
- What is the texture of a dream?
- What does a rainbow sound like?
- What shape is anger?
- What does fear look like?
- What does a promise weigh?

61 Use Everything in Moderation

Nearly every day there is conflicting information about health and wellness. Eat peanuts; they are good for your health. Do not eat peanuts; they increase cholesterol. Eat peanuts; they are filled with heart healthy fat. Wine is good for your heart. Wine is bad for your heart. The latest is tuna packed in oil is good for you; the omega 3 oils are indeed heart healthy, but for the last twenty years I have bought only tuna packed in water.

On one of the health programs on the radio here, the presenter says that no foods are bad, all foods can work, just eat a little less of them and get off the couch. She constantly is encouraging people to do everything in moderation.

Since scientists and nutritionists and doctors and lawyers change their minds based on the latest research, it seems like very good advice.

Everything in moderation. Anything from eating to exercise to reading to playing computer games to watching television needs to be done with some common sense. Obsessing on any one thing, no matter how good it is, is unhealthy for body and brain.

62 Take Vitamins and Supplements

Few scientists would disagree that your body/brain needs a constant supply of vitamins. Where the controversy arises is in how you obtain these vitamins. Nutritionists argue that you benefit most from natural sources of the vitamins in your food. On the other hand, food loses its potency the longer it is in transit from ground to table. On the other hand, you cannot overdose on natural sources of vitamins. On the other hand, many people do not have access to fresh vegetables and fruits year round (although this is getting better). So, what's a mother to do?

Most health experts hedge their bets by saying to eat as much fresh food as possible and take a good multivitamin.

One group of vitamins your brain absolutely needs is the B family or B-complex. Vitamin B12 affects your nervous system, especially the myelin sheath (the outer fatty covering of a nerve cell). Other B vitamins also play an important role in brain health. The best way to obtain these critical B1 and B6 vitamins is through diet (fresh vegetables, beans, organ meats). Your body cannot manufacture these vitamins.

Nutritionists often recommend a B-complex supplement to insure proper amounts of these necessary vitamins. *Always* check with your health care professional before taking any nutritional supplement. Some supplements interact with medications, and only a health care professional can ascertain whether there might be a risk.

Postmenopausal women are encouraged to take calcium supplements to lower the risk of osteoporosis. Brittle bone disease is a major factor in injury to older adults.

A variety of other supplements from ginseng to ginkgo biloba tout wondrous effects for memory and brain fitness. You can find as many nutritionists who are for as who are against them. Use common sense and do not go running out to buy the latest fad. Do some research on reliable sources on the Internet. Do not believe everything you hear in testimonials. Remember, these folks are paid to recommend a product. My mother always said, "If something sounds too good to be true, it probably is."

BRAIN BREAK

Use the alphabet and think of at least one girl's name for each letter. You get a star if you can come up with two.

63 Eat Lots of Vegetables Each Day

It is a fact. You should have listened to your mother (or at least to my mother) when she said to “eat your vegetables.” We know now that eating four to five helpings (about the size of a deck of cards) of vegetables every day is beneficial to both body and brain. A variety of richly colored vegetables maintains vitamin and nutrient levels that are necessary for health and longevity. For the most part, the darker the color, the more beneficial. Choose dark green in lettuce or spinach, orange (sweet) potatoes, dark red or green peppers, and so on. See your plate as a palate of color. Not only is this pleasing to your eye but to the rest of you as well. (See Numbers 20, 21, and 22 for additional information on diet.)

64 Visualize

If you can see it, you can make it happen. Sometimes you can close your eyes and visualize a person, a place, an event. Use visualization as a memory tool. When you want to remember someone or something, see it in your mind and focus on it. Pay particular attention to detail. It is like taking a snapshot with your mind. The world of psycho-cybernetics is being used by athletes and other professionals. They visualize themselves performing a task perfectly. They spend as much time as they can in this visualization process. Your brain cannot tell the difference between actually performing a task and doing it as visualization.

Countless studies of experiments in visualization are available. One of the most famous is about a basketball team that was divided into three equal parts. One third of the team practiced free throws from the foul line each day for twenty minutes. One third of the team did not practice at all. One third of the team practiced free throws from the foul line in their mind. At the end of three weeks, the team members were tested. The third that had not practiced were not nearly as good as they had been earlier. The astounding thing is that when the parts of the team that had practiced in reality and those that practiced in their mind were tested, there was no discernable difference in their performance.

Have you been to an IMAX movie? Your brain and body react as though you were actually involved in what is going on. We went to the IMAX theater just outside one of the entrances to the Grand Canyon. As the plane on the screen

was flying through those caverns and skimming the mountaintops, my body and brain were reacting totally as if I were in the plane.

This is the basis for virtual reality, keeping kids and adults fascinated for the past decade or so. Your brain and body behave as if you are there.

BRAIN BREAK

MUSIC TRIVIA

1. Where would the "A Train" take you?
2. Name the Beatles.
3. "I Am I Said" made a very rich person out of whom?
4. Who was the real "funny girl"?
5. What Broadway character washed that man right out of her hair every night for years?
6. Bill Haley and the _____ were among the first to make Rock n' Roll history.
7. Who "Walked the Line"?
8. "The fire's Tess, and the water's Joe and they call the wind _____."
9. What two things plus a hammer did Peter/Paul/Mary need?
10. Who was nothin' but a hound dog?
11. "Suicide Is Painless" was the theme song for what movie/TV show?
12. The *William Tell Overture* introduced what radio and TV show?
13. How high does corn grow in Oklahoma?

(See "Answer Section")

65 Drink Water, the Mainstream of Life

Your brain is comprised of 78 percent water. You can survive longer without food than without water. You can hardly pick up a health magazine or listen to a health program without them mentioning your body's need for water. Well, your brain needs water too.

Only a health professional can tell you exactly how much water you need to drink each day. However, a good rule of thumb is to divide your weight by three. This number provides the ounces you need to drink each day. I weigh 125 pounds. When I divide my weight by three, I come up with forty-one ounces of water. Divide that number by eight, and I know I need to drink about five eight-ounce glasses of water per day. I do a pretty good job of that, because I am very aware of it.

Did you know that your body/brain absorbs water best if it is at room temperature? I still like my water cold, but I don't do "ice cold" anymore.

Do not wait until you are thirsty to drink your water; when your body says, "Thirsty," it is already dehydrated. Keep your water bottle handy all day and keep sipping.

I proctored the English regents exam (in New York we have statewide exams at different levels), and every student taking that test had a water bottle. Those students know the value of keeping the brain saturated. I seldom go anywhere without my bottle of water. Please note I did not say coffee, tea, cola, or juices. While they all may have their place in your daily routine, it is water that is critical. Some nutritionists are saying it is OK to count these drinks as part of your fluid intake. Judge for yourself.

66 Relax in Warm Water

Water is not just for drinking. Every night (almost every night) when I am home, I slither into my "hot tub." The hot tub is on the deck, and it is a delight to sit in wonderfully relaxing hot water and let the stress and strains of the day's activities bubble away. The hot water is also a wonderful relaxant for muscles and for your brain.

Don't have a hot tub? You can fill your bathtub with (not too) hot water, add some aromatic bubbles and a candle, and create your own spa-like setting to relax at the end of the day. This regimen is also an excellent way to get your body ready for sleep. Remember to take time to be good to yourself.

67 Watch Your Weight

You can hardly pick up a health magazine, women's magazine, men's magazine, that does not scream in large letters on the cover “Ten EASY ways to lose weight.” There are several reasons for this, and I am going to give you another one. Reasons fall mostly into the fact that a high percentage of Americans are overweight, and it is a constant topic that sells magazines. People also want to look good. As a culture we are told that thin is good, while restaurants pile our plates high.

Actually thin is good—good for your brain. Consider what life would be like if you carried around five pounds of sugar in each arm. Every step you took would be more difficult, every breath you took would be laborious, your organs would have to work harder, and you would tire more easily. While you do not carry around two five-pound bags of sugar, you may be carrying around an extra ten pounds that put the same stress on your body. Since your body and brain are connected, stress on your body also puts stress on your brain. As little as ten pounds can make a big difference in your health.

The latest brain research is focusing on caloric reduction. This research is growing daily and pointing to eating at least one third less than you are eating now.

68 Write It Down

When you know you need to remember something, write it down. The physical act of writing down a name, phone number, or to-do list is an excellent way of getting your brain engaged. Writing a note to yourself engages your kinesthetic, visual, and logical intelligences, which means it is encoded in three different parts of your brain. Writing something down is a good memory tool.

69 Write Something Every Day

When I say write, I mean write, not type on the computer as I am doing now. With computers so readily available and user friendly, writing is something not done nearly often enough. Follow this simple procedure for a good brain workout:

- Find a pen that is comfortable in your hand. (Pens are different, you know.)
- Find a notebook. (I like the ones with bright-colored covers or cats.)

- Find a timer. (An inexpensive kitchen timer works, or set the one on your stove.)
- Find a comfortable, well-lighted place.
- And then write, about anything, about everything.
- Write in cursive.
- Always start fresh with a clean page in your notebook

Practice doing this exercise for a week.

You might set aside a specific time each day or try different times of the day to see when you are most prolific.

Spelling does not count; this writing is for you. Your pen does not have “spell check”; your spelling is part of who you are.

Do not worry about grammar.

Just write.

This is serious brain exercise on several fronts. The physical act of starting at the left-hand side of the paper and continuing to the right-hand side, with your eyes and attention following your hand, is good for your brain. The continuous movement helps to cross from left hemisphere to right hemisphere. The shape of the letters you record forces your eyes to shift position—good for your brain. You think and feel and consider and carry out your thoughts, activating many areas of your brain simultaneously.

When I give this assignment in my mental aerobics classes, the first thing people ask is, “What shall I write about?” My initial answer was, “Write about anything.” This was not helpful. I became specific and got better results.

The following are just a few ideas of topics—actually they are parts of my life. The list is truly limited only by your imagination. Write about

- your family
- your friends
- your first memories of school/church
- a particular teacher

- your mother/father
- a trip to the grocery store
- cats
- snakes
- a frightening experience
- falling in love
- planting a garden
- a walk on the beach

Select a topic; follow the initial instructions; gather your materials; find a comfortable space; set your timer for five minutes; and write. Stop when the buzzer goes off.

Do not read what you have written at that point.

If you really want to get into this (verbal/linguistic learners will love it), write every day. Write about the same topic, or choose a different one each day.

At the end of a week, read your work. What do you notice? Is there a change in your feeling level about writing? Is there a change in the fluidity of your writing? Is there a change in the structure of your writing?

There is a part B (actually C, D, and E) of this exercise. Select one of your day's writings. Pick a story that you really like because you are going to be working with it for several days. Tear the page out of your notebook. Set the timer for ten minutes each day, and . . .

- Part B: Rewrite your story adding as much detail as you can remember.

Next day

- Part C: Using the same story, come up with as many synonyms as you can for words used in your story.

Next day

- D: Using the same story, write it in reverse order

Next day

- Part E: Using the same story, write it as if it were happening in the future.

Keep playing with this idea as long as you want; your brain will grow more dendrites each time you do one of these exercises. You can follow the same pattern with your other stories, or write new ones and play with them.

Write your autobiography. Tell your story in as much detail as you possibly can. This is an important thing to do. This is your history. This story, the true and unedited version (or as some might say “warts and all”), is your gift to posterity. This story says, “I was here. I am an important part of God's creation. I am me, a holy ‘YES’ to God and the wonders of God's world.” Do it! Embellish away with detail; let truth (as you know it) stand alone. Do this for yourself. Do this for your children. Do this for your brain.

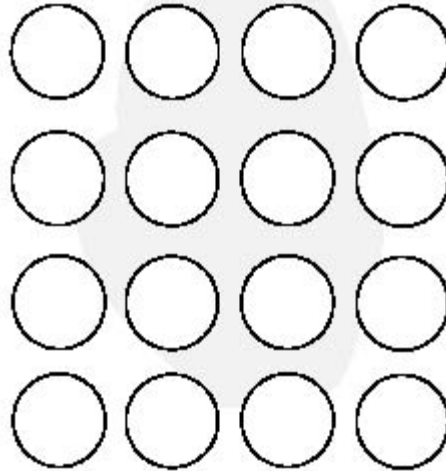
Write in the air. A brain break I often use is to write your name and anything else you would like to write about in the air. Use large strokes, cursive writing, and be sure to start at the left side of your body and continue writing as you cross the midline of your body. This simple exercise ignites both hemispheres of your brain.

Write with your other hand. Another brain break is to write your name and any other information with your nondominant hand. This causes your brain to work harder (it sparks dendrites) than if you were writing as you normally do. Caution: do NOT write any information that is important for you to be able to read at a later time; it is not always easy to read.

Write in salt or sand. I cannot spell. Anyone who has been with me in a training event knows this fact about me. My daughter inherited this dubious distinction. When we studied for her spelling tests, I would have her write the words on a cookie sheet covered with salt. She added the tactile sensation to her studying (as well as spelling it aloud) and her spelling test scores improved. There is a connection between the tip of your finger and your brain.

BRAIN BREAK

How many things can you change these circles into? Be certain the circle is an integral part of the drawing.



70 Exercise

Use it or lose it. Nothing is more precious to you than your health. Physical exercise promotes production of a growth factor that plays a critical role in the functions and survival of brain neurons. Exercises designed to build strength can help prevent premature loss of muscle tissue and can improve muscle strength, size, and endurance at any age.

The benefits of such exercise also include but are not limited to

- improving reaction time
- reducing the rate of muscle atrophy
- increasing work capacity
- helping maintain balance
- preventing back problems

Any part of your body that is left idle is liable to disease and ages more quickly.

In 1996, the World Health Organization (WHO) set down the Heidelberg Guidelines for Promoting Physical Activity among Older Persons. Since health is generally defined as a balance of physical, psychological, and social capabilities, it is obvious that the benefits of physical activity can also be categorized in the same way. Check out the WHO Web site:

www.who.int/hpr/ageing/heidelberg_eng.pdf. This and other related sites (that you can get to from this site) will give you helpful information on physical activity as you age.

Physical activity is extremely beneficial to your body. Unless you have been crossing the Sahara for the past decade, you know this message is blasted through television, radio, magazines, and newspapers. But did you know that being physically active can also improve cognitive skills such as concentration, memory, and reaction time? Researchers in France have determined that movement of the muscles stimulates the growth of axons—the parts of your brain that transmit messages between neurons. Since the number of axons is directly proportional to intelligence, it behooves all humans to move as much as possible.

The get-off-the-couch-and-get-smarter idiom definitely has a brain basis.

AARP, the American Association of Retired Persons, is constantly working to promote the social awareness of aging Americans. There are further benefits to society as a whole if you are physically active, such as reduced healthcare costs, enhanced productivity, and the promotion of positive and active images of older persons. As the graying of America continues, more and more older persons are being used for advertising in almost all areas of media.

In my classes I have a collage of pictures of older people doing exercise, dancing, rock climbing, boating, and so on. It is reassuring to see these pictures and know that it is possible and beneficial for you to continue to exercise.

I had a membership in a downtown health club here in Rochester. I was delighted to see that I was not the oldest person there. In fact, one of the managers of the club said I was median age.

PHYSIOLOGICAL BENEFITS OF EXERCISE

Short term

improves the speed of recall

releases endorphins

regulates blood glucose levels

stimulates adrenalin and noradrenalin

increases capillaries around neurons causing more oxygen and blood to reach the brain

maintains reaction time

enhances sleep quality and quantity

improves blood lipid profile

Long term

substantially improves all aspects of cardiovascular functioning

improves muscle strength and firmness

preserves and/or restores flexibility

prevents and/or postpones the age-associated declines in balance and coordination postpones the behavioral slowing in the velocity of movement

reduces arthritic pain

improves lean body weight

improves bone density

increases lung capacity

stronger heart

greater endurance

increases blood flow to the brain

PSYCHOLOGICAL BENEFITS OF EXERCISE

Short term

enhances relaxation and increases alpha waves to the brain

reduces stress and anxiety

enhances mood state

enhances sense of vigor and vitality

Long term

general well-being; improves almost all aspects of psychological functioning

reduces the rate and/or severity of mental illnesses, such as depression

improves cognitive decisions and reaction time

prevents and/or postpones declines in motor control (fine and gross movements)

new skills can be learned, increasing self-efficacy and self-confidence

SOCIAL BENEFITS OF EXERCISE

Short term

empowerment; enables people to take a more active part in their community

Long term

active individuals are less likely to withdraw from society and more likely to contribute

formation of new friendships

widens social networks

enhances intergenerational activity diminishing stereotypical perceptions about aging and physical activity

Scientists have found that if you are coerced into exercising or forced to perform an exercise you do not want to do, the stress produced outweighs the benefits of the exercise. Bottom line, choose an exercise you enjoy. Gym class is not required. Find an exercise you love and just do it.

Another factor to consider, vary your exercise routine. If you do the same exercise each day, you will become bored. Try different forms of exercise—walk, bicycle, swim. If you are in to a walking routine, enjoy it, and don't want to switch, do what I did. I love to walk. On my two-mile walk every morning, I challenge myself to look for something new each day: a pool in a backyard, some flowers I had not noticed. It adds a dimension of surprise each day. Another way to keep walking fresh is to change your pace. Walk at your normal speed for ten minutes, then jog for two minutes. I regularly met a woman who also walked each morning. As we had seen each other often, we would wave or greet each other. One morning I walked with her for a while. She told me she's eighty-seven and walks every day that it is not raining or snowing. "Been walking all my life; intend to do it till they cart me away." I only hope I can be walking every day when I'm eighty-seven. Why not?

If all this information has not convinced you to exercise and you are still fighting a need to exercise, consider not what you will gain but what you will lose:

- Calories and FAT
- Lethargy
- Cholesterol buildup
- Numerous stress-related diseases
- Feelings of anxiety and depression

Physical activity increases energy production by delivering more oxygen to the muscles, which reduces fatigue. So after any activity you should feel more energetic and invigorated.

Adopting a variety of activities is beneficial in order to reduce the risk of injury and prevent local muscular fatigue, which results from highly repetitive actions. It also prevents a sense of monotony or boredom and allows you to design your own holistic program catering to all aspects of your health, not just the physical.

71 Remember Yesterdays to Enhance Mental Fitness

Remember your yesterdays. What fun. It is so neat to make a new friend and spend hours sharing your stories and listening to theirs. Each time you tell your “yesterdays,” you activate the neural pathways that you have established. This helps to keep your brain active and well oiled.

Sharing your stories encourages keeping mentally alert. You have to dig back and recreate the story. Everyone tends to tell their story from the point of view of their remembering. History is written by the winners. Think about it.

My daughter and I were traveling in Vermont and missed the ferry across Lake Champlain by minutes. So we had thirty-five minutes to do nothing but wait in line. We began playing “do you remember”? It was surprising to both of us; we remembered the same event in very different ways. There is really nothing amazing about it. Memories are filtered through emotions. Her memories were formed from a different emotional state than mine and were encoded in her brain in a different format. We got to laughing about it and tried to see what else we could remember in our own ways. It made the time go quickly and gave both of our brains a workout.

A psychology professor in an undergraduate course had us all involved (unknowingly) in an experiment. During one of his regular classes, a man came running into the room, pointed a gun at the professor, fired two shots, and ran out. Imagine the chaos in the room. After about ten seconds (it seemed like forever), the professor stood up and said, “What happened? Take out a piece of

paper and record everything that you saw.” Needless to say, the twenty students in the class saw different things. Each of us experienced this event through our emotional filters, our cultural filters, our life experiences, and a host of other factors. The professor did this to prove a point. I still remember this emotionally laden event even after many years. I use this story in training classes often.

Getting back to your yesterdays (I sometimes digress), take time to remember your life experiences. Share them with new friends, with old friends (though not too often), and with people who might have shared your yesterdays to see how/where/if your yesterdays connect.

Another reason to remember your yesterdays is that this is who you are. You are the sum total of your memories. Without your yesterdays as you remember them, or as someone else remembers them, the you that exists is gone. My mother (actually a font of wisdom, I am learning as I grow older) always said, “A person is never truly gone until all the people that remembered him are gone.”

I discovered a wonderful book that I use in my older adult classes called *Remembering Your Story—A Guide to Spiritual Autobiography*, by Richard Morgan. The book is published by Upper Room Books, Nashville, Tennessee. This combination text and workbook is a wonderful guide to remembering and recording your personal story and your spiritual story.

72 Practice Yoga

This ancient type of physical and mental exercise has many forms. Yoga is one of the hot things to do in today's world of relaxation and renewal. Pick up any health or fitness magazine, and you will likely find an article on the benefits of Yoga.

I have been taking Yoga classes on and off for more than twenty years. I always feel both relaxed and energized. At the end of each session of the last class I took, the leader did a visualization exercise and then gave us several minutes of silence in a room with just candlelight. I felt like wax that had melted into a large puddle.

Yoga is a discipline. One woman in the class is well into her seventies and can still do all of the poses. Her flexibility and agility are amazing. She says it sometimes may take her a bit longer to get into and hold a pose, but she can still do all of them. She attributes her general health, her flexibility, and her agility to her Yoga classes.

73 Be Sure to Get Enough Sleep

Sleep deprivation can be harmful to your brain. Remember the days in college when you stayed up all night studying for an exam? You depended on “No Doze” to get you through and absolutely felt “brain dead” afterward. We now know (any students take note) that if you read your notes, study, and then get a good night's sleep, you are likely to do as well or better than pulling an all-nighter.

As people age, sleep needs vary. Some older folk say they can get by on as little as four or five hours of sleep. Others say they need a minimum of seven to eight hours (this is me). Studies on sleep deprivation seem to point to the need for at least seven hours of sleep to remain alert and attentive.

Your brain needs the down time, although it never really stops working. We know this through countless studies on sleep and the different levels of sleep and what effect they have on your brain. If you want to know more information, go online to one of the search engines and type in *sleep and your brain* and tell it to search. You will find more information than you can deal with; but if you pick and choose carefully, or if you have lots of time, you can find a wealth of information.

Some things you may do to help you get a good and restful night's sleep are

- a warm bath
- a cup of warm milk (I add some honey)
- a few minutes of Yoga breathing to relax you
- read
- think kind thoughts
- pray and/or meditate

Some things you may want to avoid if you want a good night's sleep are

- exercise before bed
- drink alcohol
- watch disturbing television (the news)
- eat heavy food

BRAIN BREAK

Complete these biblical pairs (siblings, spouses, relationships).

Adam and . . .	Mary and . . .
Cain and . . .	Peter and . . .
Jacob and . . .	James and . . .
Moses and . . .	Martha and . . .
David and . . .	Paul and . . .
Ruth and . . .	Priscilla and . . .

74 Zero In on What You Want to Learn

If you tell your brain what to look for when studying or trying to learn something new, it will focus and pick up information more accurately. When I show a video to students of any age, I give them an outline of what I want them to learn and pay attention to. It works. I have tried it both ways as an experiment: inviting students to watch a video clip and asking questions afterward OR telling them what I want them to find, for example, discover three ways to enrich your environment in this segment. It makes a huge difference.

This works for reading as well. Read for information, and you will find it more readily than if you just read and try to remember later.

75 Follow These Alphabetical Actions for Aging Gracefully

- A – Accept being a slower organism
- B – Balance your life with work and play
- C – Challenge yourself with new and unique experiences
- D – Diet—change your diet, change your life
- E – Enrich your environment
- F – Feelings—tap into them for brain growth
- G – Games—play them daily
- H – Hone in on humor
- I – Intelligences—incorporate all of yours daily

J – Journal

K – Keep working at what you enjoy

L – Learn all life long

M – Memory—sharpen yours daily

N – Novelty—do at least one thing differently each day

O – Optimism—see the glass half full

P – Pray and meditate

Q – Question things—ask what if and why?

R – Reduce stress

S – Senses—use them to gather and store information

T – Travel

U – Use all things in moderation

V – Vitamins, health insurance

W – Water—it is the mainstream of life; drink up!

X – (e)Xercise—just do it!

Y – Yesterdays—recall them and share your memories

Z – ZZZ's—catch some for a brain boost

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Appendix

THE BIG FIVE FOR MAINTAINING BRAIN FITNESS

Researchers believe five major issues contribute to the successful aging of the healthy brain. The categories in the survey cover issues of concern to you. Brain researchers the world over believe that you can, indeed, have some control over what happens to your brain as you age.

While it is true that you are born with a certain genetic makeup (you really cannot choose your parents), you do have control over other areas. With this knowledge, you can make substantial differences in how your brain ages. Through the work of scientists and researchers around the world, we now know that making changes, even subtle changes, in your lifestyle have a profound effect on your brain's fitness and function.

Much brain research is being conducted with rats. Scientists have discovered, among other things, that even an aging rat can learn new things and increase brain fitness. This research connects with and verifies what is known about the human brain. Your brain can continue to change due to what is known as “plasticity”—the ability of a neuron to change its structure and/or function as long as the brain is alive.

With that in mind, let's look at the five major issues for maintaining brain fitness:

Diet: Probably the single most important thing you can do for your brain is to be conscious of what you eat. Diet affects your brain from prenatal development and throughout your life. Everything you put into your mouth affects you, because your body uses food as fuel. When you eat too much, you gain weight. That extra weight affects all the organs in your body and causes your body to function on overload. Everything you put into your mouth affects your brain as well.

Exercise: Just as your body benefits from daily exercise, so does your brain. Exercise helps tone muscles. It also pumps oxygen into the bloodstream, which feeds the brain. The part of the brain that specifically needs oxygen is the hippocampus, which is the area of your brain that deals with the processing of memory. Everyone, from young children to aging adults, NEEDS exercise. If you want to keep moving you need to move.

Challenge: Your brain requires new challenges. People constantly tell me they do the crossword puzzle in the paper every day to maintain mental fitness. Well, your brain soon begins to see that as same old, same old; and the challenge is no longer there. Your brain simply goes into crossword puzzle mode. What you need to do to maintain successful brain aging is to try a new challenge, a harder level puzzle or the word “Jumble” or some other challenging form of mental

fitness. Just as a runner needs to keep extending the speed or distance she runs, so the brain needs new challenges.

Newness/Novelty: Closely linked with challenge, you need to introduce some novelty into your life to keep your brain occupied and enriched with new learning. Try doing normal things in an abnormal way. Extend the use of your senses every day. Hone your abilities to see, hear, taste, touch, and smell. Become conscious of each of your senses, and then stretch them by using them in new and different ways. Utilize your senses to help maintain brain fitness.

Love/Relationship: Human touch is a critical part of maintaining a successfully aging brain. In experiments with rats, it was discovered that the rats that were held and petted lived half again as long as those who were not treated this way, even though all other elements were kept constant. In my training with staff in adult day care centers, I have discovered this is true in humans as well. Many of the staff tell me that they hug their “clients/patients” each day. Staff members have told me that this is the bright spot in the day for many residents of nursing homes. Hug someone today!

Excellent Elders

It pays to keep your brain fit. Check this out . . .

With a lot of things going right for you (such as using the exercises mentioned in this book) your name could be here. Consider the accomplishments of a microscopic sample of famous and not-so-famous people who kept (keep) their brains fit and functioning until they were in the later years of their lives. Think of your own “life line” and what you may continue to achieve as your brain functions optimally.

Famous Folk:

Dr. Michael DeBakey, world-famous surgeon, performed three-hour heart surgeries at 90.

Cecil B. DeMille produced/directed *The Ten Commandments* at 75.

Guiseppe Verdi, well-known composer, wrote two operas after 80.

Frank Lloyd Wright, world-renowned architect, designed “Falling Water” at age 69, the Guggenheim Museum at 76.

World-famous Artists:

Michelangelo painted in Rome until he was 89.

Claude Monet created the last of his water lily collection at 86.

Picasso painted daily until the age of 91.

Grandma Moses began painting late in life and continued to paint until her death at 101.

These folk began their work in their late 50's or 60's:

Ray Kroc—McDonald's

Colonel Harlan Sanders—Kentucky Fried Chicken

Emily Post—guide to manners

Not-so-famous Folk:

Libby, who still had season tickets for the Buffalo Bills and could quote the team stats with the best of them at 86

Miss Ruthie, who leads the aquatics program at the Center for Disability Rights at age 90

John, who graduated from S.U.N.Y., Brockport with a BS degree at 94 (oldest person to ever graduate from this school)

Emma, who is 85 and goes to help at the local nursing home where she takes meals to the “old people”

Grandpa Dick, who in his late 70's goes to work in the day care center and plays with the children

Betty, who is working on her Ph.D. at 82

List those you know who are keeping their brains fit enough to make this list.

Decide what you will do to remain physically and mentally fit.

Do it today.

Past, Present, Future

For thousands of years humans have had a fascination with the brain. Early brain researchers did not know what they did not know and really did not know how to find out. Primitive research was done on dead brains—it was difficult to convince any live person to donate his or her brain. People did not live very long. There were very few eighty-year-olds to do any kind of brain research on. For hundreds of years there was speculation and much misinformation about this amazing,

three-pound organ. It was long held as fact that you lost brain cells (neurons) as you aged and that caused mental decline and that was the way it was.

By the end of the nineteenth century, however, many astounding discoveries were made, although they seem primitive to us now. Knowledge of the brain crept along at a snail's pace up through the middle of the twentieth century. Then Roger Sperry's work on epileptics won him the Nobel Prize for split brain research. While we now know much more than we did in 1960, his work opened many doors and offered exciting possibilities to learn more about the functioning of the brain.

In fact, scientists have learned more about the human brain in the last three decades than in all human history combined. Scientists and researchers from varied disciplines are on the cusp of knowledge about what your brain can do. There are several reasons for this.

New technology has enabled scientists to look at the brains of living beings. Not only can they see inside the brain with PET, CAT, and MRI technology, they can now see the brain at work with the fMRI.

President George H. W. Bush declared the 1990's the "Decade of the Brain." Indeed much time, effort, and money has been spent on research to determine what the brain is all about.

People are living longer. The life expectancy of a person in the United States in 1900 was 47. Today it is 76. Baby boomers (the 77 million people born between 1946 and 1964) began turning fifty in 1996. Ten thousand baby boomers turn fifty every day. They begin turning sixty in 2006. They are not sitting idly by. They are making their voices heard loud and clear, demanding to find out what can be done to maintain health in body, mind, and spirit. They are pushing for new understandings and new methods to keep fit and functioning.

The world of education is moving forward, looking into what actually happens in the brain as people learn. From this knowledge, the next step is to find ways to make teaching/learning more productive and help all students of all ages reach their optimum potential.

The world of medicine is helping people live longer physically, and new demands are being made to keep older people out of nursing homes. What good does it do you to reach 90 if all you can do is sit and stare into space with your brain functioning at minimum response level?

The future of brain research is wide open. Some of the directions being taken involve research on restricted diets, new drugs to enhance and maintain brain fitness, and early intervention programs to name just a few.

The Futurist Society is a fascinating group to listen to. Some predict that by 2050 there will be more people over 65 than under 65 in the United States—an unprecedented event in history. People living to 100 and beyond will be commonplace. Women will be having children in their 40's and 50's and beyond. The face of aging is changing rapidly. It is hard to keep up. There are so many reasons to keep your brain fit. Reading *Futurist Magazine* or checking out their Web site is both a fascinating and somewhat frightening thing to do.

Diet is a big area of aging and brain research. Reduced-calorie diets seem to keep people in other parts of the world healthier in both brain and body. Much excitement exists about this train of thought.

Stem cell research is another area of great interest. You may be able to preserve parts of your body in case you need to grow a new liver, kidney, or other organ—shades of *Brave New World*!

Artificial Intelligence is an area of research that is in the news more and more. We can only dream about progress being made in this field.

Uncovering the secrets of the human genome opens worlds of possibilities.

The possibilities are endless and awesome. We cannot begin to imagine what may lie ahead for us.

Pray and leave with God the possibilities!

Bibliography

Books:

Amen, Daniel G., *Change Your Brain, Change Your Life*; Times Books, 2000

Ashbrook, James B. & Albright, Carol R., *The Humanizing Brain*; Pilgrim Press, 1997

Bruce, Barbara, *Our Spiritual Brain: Integrating Brain Research and Faith Development*; Abingdon Press, 2002

Carper, Jean, *Your Miracle Brain*; Quill, 2000

Carter, Rita, *Mapping the Mind*; University of California Press, 2000

Chernow, Fred B., *The Sharper Mind*; Prentice Hall, 2001

Dennison, Paul E. & Dennison, Gail E., *The Brain Gym*; Edu Kinesthetics, 1994

Gamon, David & Bragdon, Allen D., *Building Mental Muscle*; Allen D. Bragdon Pub., 1999

Gelb, Michael J., *The How to Think Like Leonardo da Vinci Workbook*; Bantam Books, 1999

Goldman Robert, Klatz, Ronald K., Berger, Lisa, *Brain Fitness*; Main Street Books, 1999

Goleman, Daniel, *Emotional Intelligence*; Bantam Books, 1997

Howard, Pierce J., *The Owner's Manual for the Brain*; Bard Press, 2000

Katz, Lawrence C. & Rubin, Manning, *Keep Your Brain Alive*; Workman Publishing Company, 1999

McFarland, Judy Lindberg, *Aging Without Growing Old*; Siloam Press, 2003

Michaud, Ellen & Wild, Russell, *Boost Your Brain Power*; MJF Books, 1997

Mohr, Marilyn Simonds, *The Games Treasury: More than 300 Indoor and Outdoor Favorites With Strategies, Rules, and Traditions*; Chapters Pub. Ltd., 1996

Morgan, Richard, *Remembering Your Story—A Guide to Spiritual Autobiography*; Upper Room, 2002

Ornstein, Robert O. & Thompson, Richard F., *The Amazing Brain*; Mariner Books, 1991

Robertson, Ian H., *Mind Sculpture: Unlocking Your Brain's Untapped Potential*; Fromm Intl, n.d.

Snowdon, David, *Aging With Grace: What the Nun Study Teaches Us About Leading Longer, Healthier, and More Meaningful Lives*; Bantam Doubleday Dell Pub, 2002

Sunbeck, D., *Infinity Walk: Preparing Your Mind to Learn*; Jalmar Press, 1996

Sunbeck, D., *The Complete Infinity Walk—Book I, The Physical Self*; The Leonardo Press Foundation, 2002

Turkington, Carol, *The Brain Encyclopedia*; Checkmark Nooks, 1999

Web sites:

www.brain.com

www.aarp.org American Association of Retired People

www.aging.ucla.edu UCLA Center on Aging

www.alzheimers.org Alzheimer's Disease Education & Referral Center

www.alz.org Alzheimer's Association

www.aoa.gov Administration on Aging

www.livingto100.com Longevity Quiz and information

www.mayoclinic.com Mayo clinic

www.wfs.org World Future Society, fascinating

www.nunstudy.org The Nun Study

www.neuroscienceforkids.com Neat stuff for all ages

Answer Section

Answers for activity "8 Change Your Attitude"

1. 26 = Letters of the Alphabet
2. 7 = Wonders of the World
3. 12 = Signs of the Zodiac
4. 54 = Cards in a Deck (with the Jokers)
5. 9 = Planets in the Solar System
6. 88 = Piano Keys
7. 13 = Stripes on the American Flag
8. 32 = Degrees Fahrenheit at which Water Freezes
9. 90 = Degrees in a Right Angle
10. 200 = Dollars for Passing Go in Monopoly
11. 8 = Sides on a Stop Sign
12. 1,000 = Words that a Picture is Worth
13. 29 = Days in February in a Leap Year

Answers for activity "16 Find Your Creativity"

1. backward glance
2. he's beside himself
3. long underwear
4. banana split
5. Robin Hood
6. six feet under ground
7. hole in one

8. safety in numbers
9. six of one, half dozen of another
10. just between you and me
11. scrambled eggs
12. right in the middle of things

Answers for activity "39 Listen"

1. green is at the bottom
2. fifty
3. Q and Z
4. left arm, right leg
5. red
6. counterclockwise (in the northern hemisphere)
7. buttons are on the right
8. Franklin D. Roosevelt
9. eight sides
10. even-numbered pages are on the left
11. six sides
12. the word *one*
13. three curves

Answers for activity "64 Visualize"

1. The A Train takes you to Harlem.
2. John, Paul, George, and Ringo
3. Neil Diamond

4. Fanny Brice
5. Nell in *South Pacific*
6. Comets
7. Johnny Cash
8. Mariah
9. A bell and a song to sing
10. Elvis Presley
11. M*A*S*H
12. "The Lone Ranger"
13. an elephant's eye

Mental Aerobics

75 Ways to Keep Your Brain Fit

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